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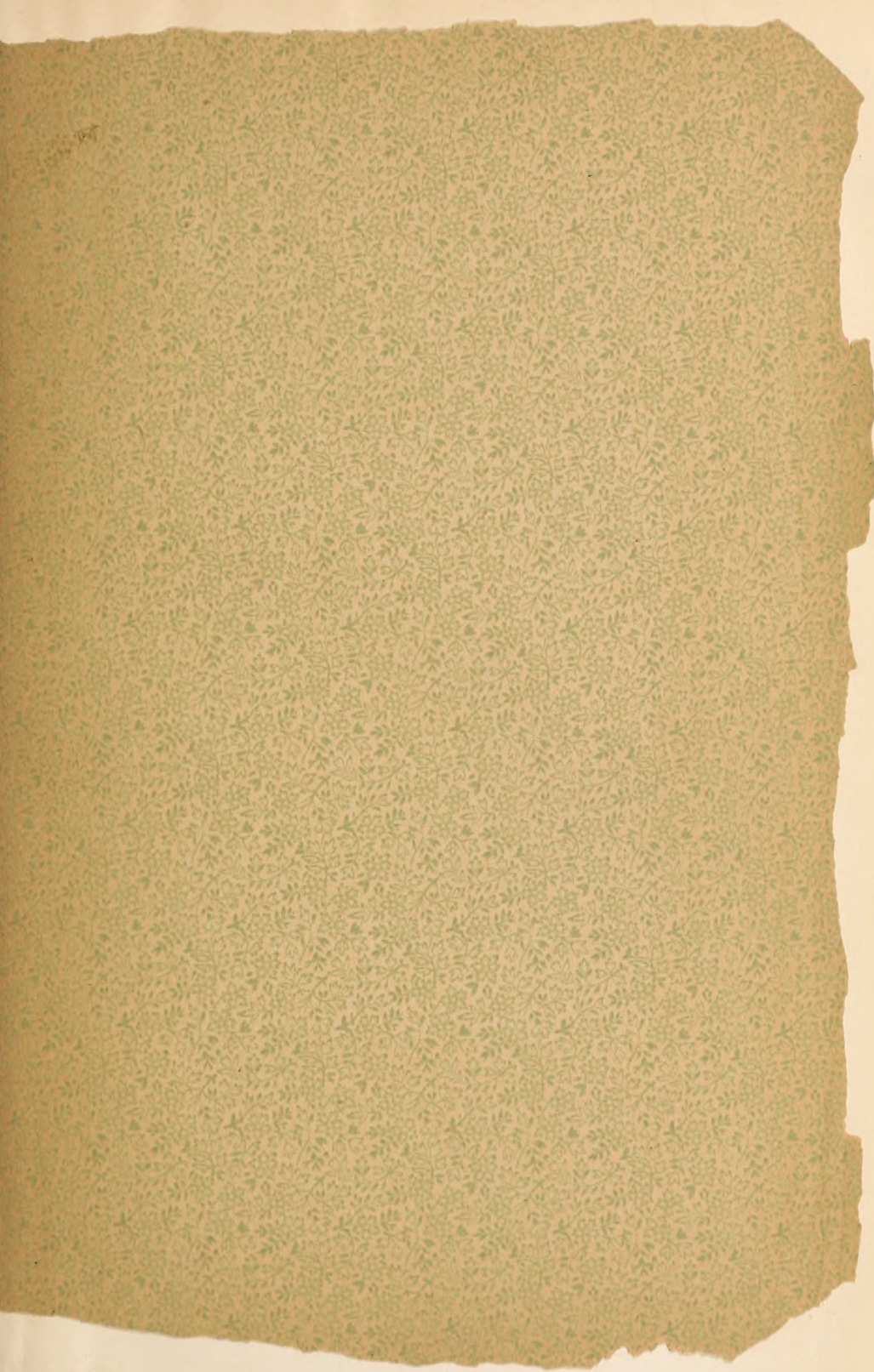
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College of Physicians and Surgeons



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STEPHEN E. FULLER, M.D.

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THE CLINICAL VARIETIES OF LOBAR PNEUMONIA.

BY GLENTWORTH R. BUTLER, M.D.

Chief of the Second Medical Division, Methodist Episcopal (Seney) Hospital, Brooklyn, N. Y.

Read at a Meeting of the Medical Club of Brooklyn.

As indicated by the title, this paper is written solely from a clinical point of view. It should be postulated that lobar pneumonia is regarded as an infectious disease, caused by the Fraenkel-Wechselbaum pneumo-coccus (diplococcus lanceolatus, pneumococcus pneumoniae crouposæ). In common with other infectious diseases it has both typical and aberrant forms, the latter departing to a greater or less extent from the average type. Every medical clinician who sees a large number of cases of lobar pneumonia, will sooner or later encounter variations from the ordinary frank form, either in symptoms, or signs, or duration. The diagnosis of the ordinary form is readily made. The clinical picture is so striking that an error in diagnosis is impossible. On the other hand there are certain variants with such slight physical signs that it may require a very careful and thorough examination in order to determine the true nature of the disease.

There are also cases where the underlying and essential lesion is masked by symptoms belonging to other organs than the lungs. Finally there are less important variations in the symptoms which may be puzzling unless the possibility of their occurrence is borne in mind.

As an aid to my own daily work, I have tabulated these variations as follows. Nothing is included except those of which at least three examples have been seen. None of these observations can be considered original, although two of them have received scant notice in the literature of the subject :

1. *Pneumococcus septicæmia*.
2. Incomplete hepatization.
3. Latent pneumonia.
4. Abortive form.
5. Wandering form.
6. Obstructive form.
7. Delayed resolution.
8. Simulating typhoid fever.
9. With nervous symptoms predominating.
10. With gastric symptoms.
11. With delayed appearance of physical signs.
12. Intercurrent pneumonia.
13. With marked peritoneal or abdominal symptoms.
14. Acute pulmonary congestion.

Pneumococcus septicæmia. Under this heading are embraced the cases which have been called adynamic, low, or typhoid pneumonia. The clinical picture is that of a more or less profound and sudden blood-poisoning, with symptoms indicating the involvement of the nervous mechanisms which preside over the most important functions of the organism. A case in point is one seen with Dr. D. M. Guiteras, U. S. N., in January, 1895. Male; thirty-eight; Cuban; single; well nourished, but not robust. Suffered from pneumonia two years previously. The present attack began very abruptly with chill and severe pain in the left chest. In twelve hours the left lower lobe was solid as indicated by the physical signs. There was no extension of the process. Cyanosis and delirium were marked from the beginning. The temperature never rose above 100° F. Pulse, 95-100, weak and soon dicrotic. There was constant and profuse sweating. In twenty-four hours there was subsultus and carphologia. Sputum rusty. In forty-eight hours from the onset of the disease he was dead.

A similar case, with a duration of only twenty-four hours, occurred in my service at the Seney Hospital, and at the autopsy a moderate beginning consolidation was found.

Such histories prove conclusively that death may occur solely from the entrance into the blood of the toxic products of the pneumococcus, the local lesions being moderate or slight. It is fair to assume one or all of three things: that the patient is primarily in poor general condition; that he is unusually susceptible to septic influences; or that there is a vast difference in the virulence of the pneumonia-producing coccus. All these propositions are unquestionably true, but it is probable that the most important factor is the pathogenic quality of the germ.

That the disease-producing power of the pneumococcus is subject to variations, is proved by the fact that it rapidly loses its virulence under cultivation in laboratory media, and its former malign qualities can be restored only by passing it through the body of an especially susceptible animal.

Incomplete hepatisation.—In 1890 I drew attention to some cases* of which my colleagues and myself have since seen further illustrations. The main points of the personal cases described are as follows: Moderately sudden onset, with chilliness but no marked chill, slight cough, slight non-localized pain in chest, pulse-respiration ratio of 3.5, temperature fluctuating irregularly between 100.5° and 102.5° , duration three to four weeks. A cursory examination of the chest is usually negative, but if a minute search is made, a single strip or patch of dulness and bronchial breathing will be found usually in the right axillary region, corresponding to the adjacent borders of the middle and upper lobes, but not at any time involving the entire lobe.

Latent pneumonia.—This form of pneumonia is sufficiently exploited in literature, but I am persuaded that it is often overlooked in actual practice. As its name implies, the characteristic symptoms are hidden, indeed, may be altogether absent. The pulse is weak, not necessarily rapid, and the pulse-respiration ratio may deviate little, if at all, from the normal. Cough and expectoration may be absent. There may be delirium. In spite of the paucity of symptoms there are some points which will lead to an exploration of the chest. 1. Old age or chronic alcoholism. 2. A curious and at first inexplicable muscular weakness. 3. Patient inspection discloses a trifling amount of dyspnea, manifested by an abnormal increase of respiration after

* BROOKLYN MEDICAL JOURNAL, Vol. V., 1891, page 35.

moderate exertion, such as turning in bed, or slight breathlessness in talking. 4. A trace of cyanosis in the lips and finger nails.

Marked examples of this variation are not very frequent. Nevertheless it is probable that "old age," which figures so prominently as a cause of death among the ancestors of life insurance applicants, and sometimes in mortuary statistics, is synonymous with senile or latent pneumonia.

The explanation of the latency of the symptoms is of interest. It is doubtless to be found in the sluggish and incomplete reactions of senile tissues and functions to stimuli, which in a vigorous young adult will cause such violent circulatory, respiratory and metabolic changes.

Abortive form.—Cases of pneumonia have been encountered whose duration was so short that they deserve the term abortive. These have been seen especially in children, although three of my cases have been adults, and they occur not infrequently during epidemics of pneumonia in military camps, hospitals and jails. They differ from the ordinary form of pneumonia for the most part only in duration and rapidity of convalescence. In the shortest personal case there was unmistakable consolidation within twelve hours after its onset, and defervescence took place at the end of forty-eight hours. Of this case I subjoin the clinical chart (Fig. 1). In this class of cases the termination is by a rapid crisis. If we accept the hypothesis of an antitoxin formation in this as in some other infective diseases, the sudden and rapidly favorable ending must be attributed in large part to an unusual capacity of certain organisms for the production of toxins antagonistic to those of the lanceolate micrococcus.

Wandering form.—In this variety a steady advance of consolidation from lobe to lobe, apparently by quick extension, can be easily followed by the resulting physical signs and recurring elevations of pulse, respiration and temperature. If not fatal it is apt to be protracted. It presents no difficulty in diagnosis.

Obstructive form.—This term was popularized by A. H. Smith.* It is applied to cases in which there is great obstruction to the passage of blood through the lungs. This obstruction may arise from the extent of the consolidation, or from the existence of intense pulmonary congestion, with more or less œdema. In such cases unusual strain is put upon the right ventricle, which, from the inferior power of its walls, is unable to propel the blood with normal velocity through the pulmonary circulation. Autopsy in

* New York Medical Journal, 1892.

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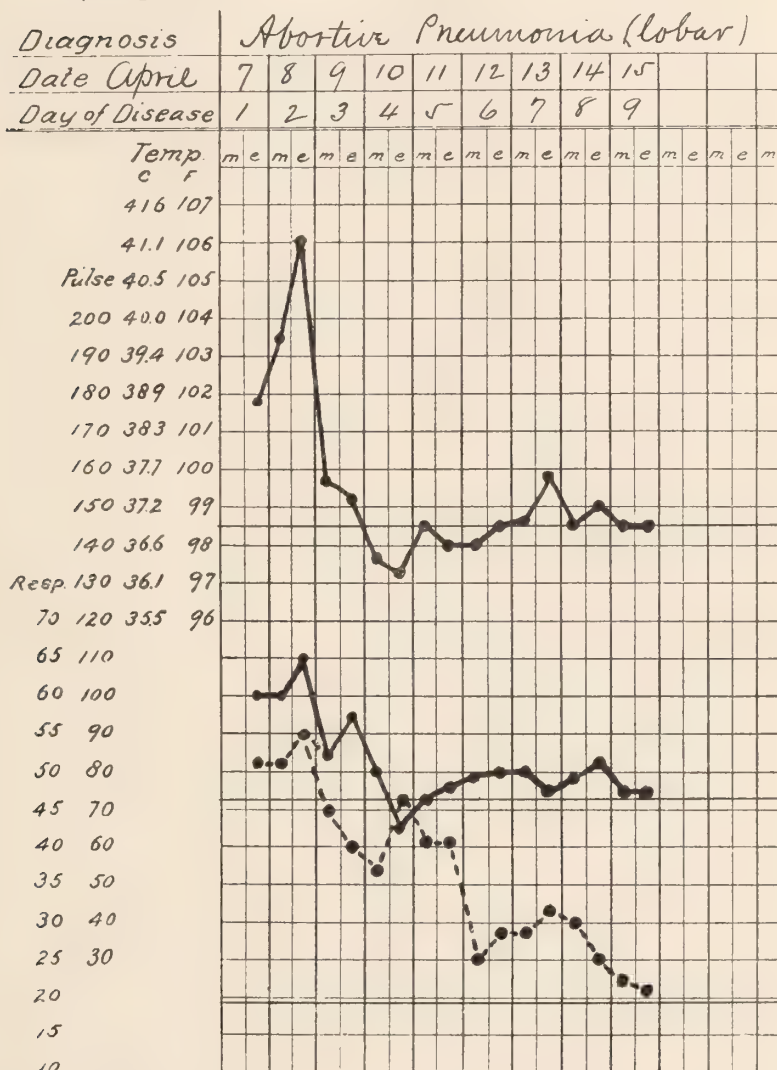


FIG. 1.—Abortive pneumonia. Dulness and broncho-vesicular respiration over right lower lobe on April 8th. Upper line, temperature; middle line, pulse; broken line, respiration.

these cases will show the right auricle and ventricle to be distended with jelly-like coagula, probably of post-mortem origin. The aorta and its branches are underfilled during life. The superficial veins are also empty, having passed the major portion of their contents into the large venous trunks, as I have been able to demonstrate by attempted venesection from the arm. Under such circumstances the blood flows sluggishly or not at all, and there has been no relief to the embarrassed pulmonary circulation. Aspiration of the right auricle, as practiced by the late B. F. Westbrook and others, will be of service, but a fatal bar to its employment is the failure of the needle puncture to close. The last case of auricular puncture which I saw, came to autopsy, and the pericardial cavity contained a pint of blood, which had leaked from the puncture. In such cases the tonus of the auricular wall is so much lessened that the needle puncture gapes.

A certain amount of pulmonary obstruction is an element in every case of pneumonia, but in some it is such a predominant factor, that it is proper to recognize this condition as a clinical form. The amount of obstruction is measured in great part by the pulmonary second sound. If the obstruction is marked, and the power of the right ventricular systole is adequate to force the blood forward, the pulmonary arterial tension will obviously be increased, and the closure-sound of the pulmonary valve be loud and accentuated. It is analogous to the similar condition in mitral disease. It is further obvious that this accentuation of the pulmonary second sound will cease under two conditions, viz., lessening of the pulmonary obstruction, or decrease in the power of the right heart. Whether it is due to the former or the latter cause must be determined by the general condition of the patient, and the evidence of lessened or increased rapidity and ease of breathing.

Extensive involvement of lung tissue, some dulness and numerous râles over the uninvaded portion of the lungs, marked cyanosis, rapid and embarrassed breathing, together with a pulmonary second sound, at first accentuated, later becoming extinct, with progressive increase of the unfavorable symptoms, constitute the clinical picture of the obstructive form of pneumonia.

Delayed resolution.—It is very well known that the physical signs of consolidation persist for a varying period, with normal or nearly normal pulse, respiration and temperature. Such cases do not come under this heading. The delayed resolution may

follow an apparently typical frauk pneumonia, but is more commonly a sequel to the septicæmic, latent and incomplete forms. It is attended by a remittent, almost suppurative temperature curve; not, however, with such wide excursions as may attend the latter. The pulse and respiration remain unduly rapid. Eight or ten weeks may elapse before resolution is complete.

Simulating typhoid fever.—A number of cases of pneumonia have been seen in which typhoid symptoms developed (more or less rapid pneumococcus septicæmias), but the physical signs were sufficiently marked, and the patients were seen at a sufficiently early date, to prevent a mistake in diagnosis. But if the previous history is incomplete, and the physical signs indecisive, such a mistake may happen. An example occurred lately in my service at the Seney Hospital. Male: thirty; admitted September 19th. The only history attainable was that he began to feel sick one week previous to admission, with no definite symptoms. After three days he gave up his work, but did not go to bed, and continued to suffer from headache, fever, and mental dulness. On admission, temperature 104.5° ; pulse, 80; respiration, 27; face flushed; tongue coated, dry and tremulous; slight cough, with muco-purulent expectoration; sputum not rusty at any time; is stupid, but can be aroused; heart, negative; lungs, few moist râles over both sides; no dulness or alteration of breath sounds. Abdomen moderately distended; splenic dulness increased; no rose spots; no reaction to Ehrlich's test; no hæmatozoa in blood; three stools on day of admission. During the next two days the temperature remained irregularly elevated, diarrhœa continued, and abdominal distension increased. On the morning of the fourth day the respiration ran up to forty-eight, and pneumonia of the left upper lobe developed, as shown by dulness and bronchial voice and breathing. He died on the fifth day in hospital, the tenth or twelfth of the disease. The clinical diagnosis was that of typhoid fever, with an intercurrent lobar pneumonia. The post-mortem diagnosis was that of lobar pneumonia, left upper lobe, a general broncho-pneumonia verging on gangrene, and no intestinal lesion whatever. Clinical chart is appended. (See Fig. 2.)

With nervous symptoms predominating.—This form of pneumonia, simulating meningitis, occurs mainly in children, and at one time was thought to be associated, in the majority of cases, with pneumonia of the apex. The chest symptoms may be so overshadowed by the meningeal, that it is an excellent rule to

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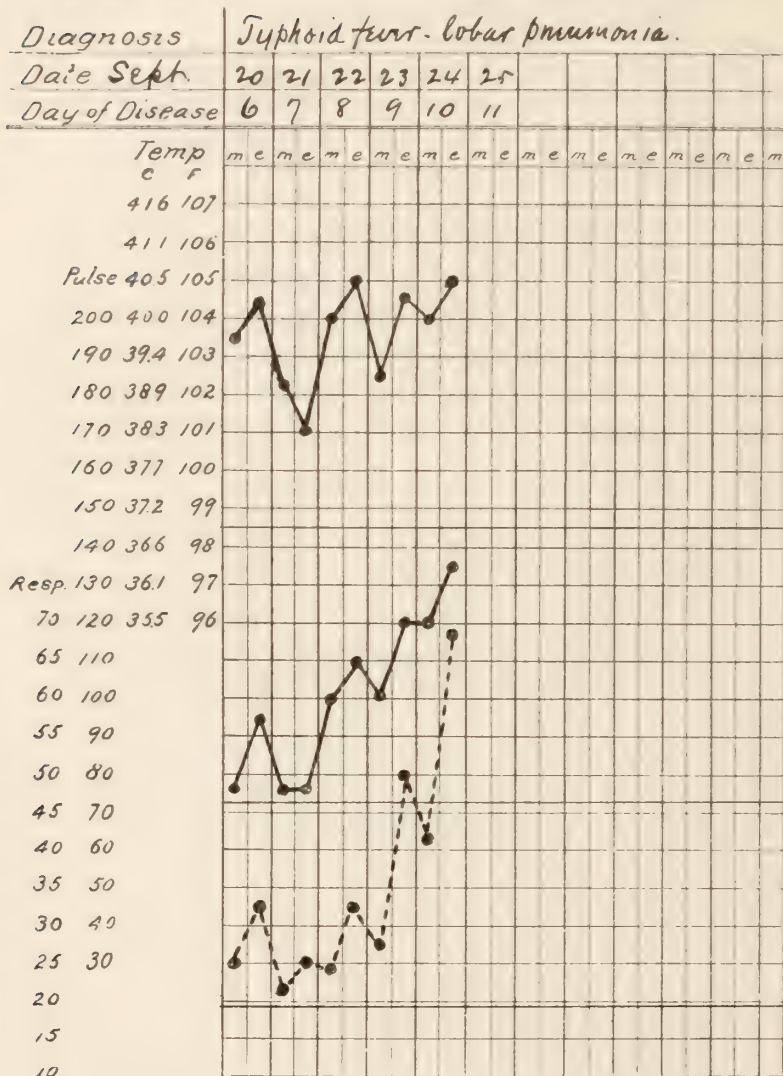


FIG. 2.—Clinical diagnosis; typhoid fever and intercurrent lobar pneumonia. Post-mortem diagnosis; lobar pneumonia, gangrenous broncho-pneumonia. No intestinal lesions. Upper line, temperature; middle line, pulse; broken line, respiration.

consider head symptoms in a child as demanding an examination of the chest. The possible existence of true meningeal inflammation as a not uncommon complication, requires some reservations, but it occurs at the height of, or toward the close of pneumonia, whereas the pseudo-meningitis initiates the disease.

In adults another source of error may exist. Pneumonia occurring in chronic alcoholics may at first glance be quite unsuspected, the symptomatology being that of delirium tremens. But an increased pulse, respiration and temperature will usually prevent misinterpretation.

With gastric symptoms.—In children vomiting and diarrhœa may be so marked and persistent as to divert attention from the chest. This rarely happens with adults.

With delayed appearance of physical signs.—These are extremely perplexing cases when encountered, unless the rusty sputum is present, but are fortunately rare. I have had one case in which the physical signs were not manifest until the fifth day, and Delafield* is authority for the statement that they may not appear until the eighth day of the rational symptoms. The old explanation is doubtless correct, viz., that the consolidation begins centrally and spreads slowly to the periphery.

Intercurrent pneumonia, arising in the course of other acute or chronic diseases may escape detection unless the possibility of its occurrence is borne in mind.

With marked peritoneal or abdominal symptoms.—This is a class of cases of which I have seen three examples, but the only reported cases which I have found are those of Packard.† The first case reported by him was that of a man having violent pain in the hepatic and umbilical regions, with great distension of the abdomen. On the first day of the disease a diagnosis of intestinal obstruction was made. On the second day a two inch circle of dulness and bronchial breathing was found, with its center in anterior axillary line, running into liver dulness. The temperature was 99°; respiration, 26; pulse, 76. Later there was some pleural effusion. The patient recovered. The second case was one of pneumonia, with great tympany.

Two of the cases under my observation were seen with Dr. W. F. Gardiner, of Brooklyn. One was in a child of eight years, with frank pneumonia of the right base. On the second or third day of the disease there was vomiting, intense abdominal ten-

* American Text Book, Theory and Practice of Medicine, Philadelphia, Pa., 1894, ii, 553.

† University Medical Magazine, Philadelphia.

derness and pain, with marked tympanites and rigidity of the abdominal muscles. These symptoms gradually subsided and the child finally recovered.

The other case was in a young man, twenty-six years of age, suffering from a double pneumonia of the lower lobes. It was of influenzal origin, and the septicemic type. There was severe abdominal pain and tenderness, great tympanites, and decided rigidity of the abdominal muscles. Death resulted on the tenth day of the disease. There was no autopsy. A similar case occurred in my own practice, except that the pneumonia was of a milder type, and the patient recovered. In all these cases the rational and physical signs of the pneumonia were unmistakable.

The question arises as to whether the abdominal symptoms were the result, direct or indirect, of the lung disease, or whether some abdominal lesion existed independently, but contemporaneous with the pneumonia. The following possibilities were discussed in each case :

1. Pneumo-typhus.
2. Appendicitis.
3. Diaphragmatic pleuritis.
4. Peritonitis by extension.
5. Splanchnic or vagus involvement.

Pneumo-typhus, that form of typhoid fever which sets in with evidences of lobar pneumonia, may be excluded in the two cases terminating in recovery, their duration being much less than the minimum of typhoid fever. In all three cases the rose-rash and associated symptoms were wanting. It cannot be absolutely excluded in the fatal case.

Following the rule, that in all cases of abdominal pain, the appendix is to be considered guilty until proved innocent, this vestigial structure was carefully investigated with negative results. No tumor could be felt, and the pain and tenderness was not localized. If an inflamed appendix was responsible for the abdominal symptoms, it must have co-existed with the pneumonia, as the physical signs of the latter were indubitable. It would seem impossible to mistake the one for the other, but Fowler mentions a case of appendicitis,* which was diagnosed as pneumonia and diaphragmatic pleurisy.

An involvement of the diaphragmatic pleura will account for one of the symptoms, viz., the pain. The pain of diaphragmatic pleuritis may be felt in the hypochondriac, umbilical, and lumbar

* Monograph. Appendicitis, Philadelphia, 1894. 117.

regions. It may also in part explain the rigidity of the abdominal muscles, the latter contracting to limit the movements of the diaphragm. It is somewhat significant that the pneumonia in all these cases involved the lower lobe or lobes. But inflammation of the diaphragmatic pleura alone does not afford an explanation of the marked abdominal tenderness and tympanites.

The existence of peritonitis would account for the symptoms with completeness, but this complication occurs so infrequently in pneumonia that one feels considerable hesitancy in accepting it as a demonstrated fact. Osler* states that it "is exceedingly rare," but the implication is that it does occur. But the fact that the lanceolate coccus may be a factor in the causation of peritonitis has been conclusively proved. In a brilliant paper by Wright and Sears† on the results of bacteriological investigations in autopsies, four cases are reported in which this micro-organism was found in the exudate of peritonitis. Its mode of access to the peritoneum is not a stumbling-block, as direct invasion through the diaphragm is possible, and if this is not admitted, it has been found in the blood, liver, kidneys, and spleen. Furthermore, the fact is well known that this germ is the active agent in several of the inflammations of serous membrane which may complicate pneumonia, viz., pleurisy, simple or purulent, pericarditis, endocarditis, and purulent lepto meningitis. There is, therefore, no inherent improbability in stating that inflammation of the peritoneum may be associated with pneumonia, as an extension of the infective process which is taking place in the lungs.

The remaining explanation of these cases is purely hypothetical. It is suggested that the abdominal symptoms may, in some obscure way, be due to vagus paralysis, or splanchnic irritation, either or both of which will stop peristaltic action, with resulting relaxation and tympany. The existence of certain phenomena as a direct result of the action of the pneumo-toxin upon the nervous system is frequently observed, yet while not denying the possible truth of this hypothesis, such an explanation seems rather far fetched.

The absence of an autopsy in the fatal case precludes a positive statement as to the cause of these unusual symptoms. The diagnosis which fits the clinical picture most accurately, is that of a diaphragmatic pleurisy, with a more or less extensive peri-

* Practice of Medicine, New York, 1892, 524.

† Boston Medical and Surgical Journal, 12, 13, 14, cxxxii, 1895.

tonitis, the latter originating by direct transmission. This opinion was held at the time, and it has been strengthened by further thought upon the subject.

Acute pulmonary congestion has been seen in numerous cases of epidemic influenza, especially in children. Strictly speaking it does not belong in this classification, because intense congestion is the first and last of the process, pneumonia not developing. Clinically its onset is sudden, temperature high, pulse-respiration ratio eminently pneumonic. There is no perceptible alteration of the percussion note, and the respiratory murmur is normal except for a very moderate harshness over both sides of the chest. The crepitant râle is occasionally heard. It subsides either with or without treatment in twelve to twenty-four hours. It is very apt to come on at night, and to subside by morning. There may be a recurrence on one or two subsequent nights. As this condition is undistinguishable from the first stage of pneumonia, the physician frequently receives praise to which he is not entitled.

VARICOSE VEINS AND THEIR SIGNIFICANCE.

BY WALTER C. WOOD, M.D.
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Read before the Brooklyn Surgical Society.

I desire to report some observations concerning the prevalence of dilated and varicose veins, and the frequency with which this condition is found in more than one location or system of veins in the same individual. Secondly, to inquire from the clinical standpoint, in regard to their etiology and true significance; thirdly, to note the general principles of treatment suggested by this inquiry.

Inasmuch as the early and moderate cases of venous dilatation do not apply for treatment, a perusal of hospital records and private case books will not give an accurate estimate of their prevalence.

The observations to be reported were made when assisting Dr. R. L. Dickinson in the civil service examinations of candidates for positions of firemen and park police and are from those records. The candidates were between 21 and 35 years of age, mostly mechanics, laborers, clerks, or railroad men. In many instances

their occupations had required long hours of standing or hard work, either exposed to all kinds of weather or to the more enervating conditions of close confinement and bad air. The following defects of the external veins were apparent. Total number examined 2141; excluded for defective eye-sight or hearing and not further examined, 137. Number examined stripped, 2004; 91 had varicose or dilated veins of the lower extremities alone; 139 had hemorrhoids alone; 121 had varicocele alone. In 17 men both hemorrhoids and varicose veins were present. In 30 men hemorrhoids and varicocele together were noted. In 33 cases we found varicose veins and varicocele. In 11 cases the three conditions, varicose veins, varicocele and hemorrhoids, were all found. In short, 442 out of the 2004 men who were examined stripped, presented one or more examples of defective veins.

In 34 of these cases it is recorded that there was a complicating cardiac lesion. This number I am confident does not express the full proportion that were so complicated. For, when a man was manifestly unfit for the service, his heart was usually not examined. The cardiac condition noted most frequently was dilatation, with or without murmurs. The murmurs were usually systolic in time and loudest over the pulmonary or aortic valves. In character they resembled the functional or anæmic murmurs. Rapid heart action with or without irregularity was also found. Because such a large proportion (22 per cent.) are recorded as presenting defective venous conditions, the question naturally arises as to whether extremely trivial defects were not noted. However, here only 5.6 per cent. were excluded for varicocele, and 7 per cent. of recruits for the English army are rejected for this condition.

Our knowledge concerning the etiology of these affections is not entirely satisfactory. Where the lesion is confined to one set of veins, a local mechanical cause is a sufficient explanation. In well marked cases applying for relief from a localized disability, the cause is often easily determined. For example: An engineer, 35 years of age, desired treatment for varicose veins of right leg. Seven years previously, when convalescing from typhoid fever, he suffered from swelling of the right leg and thigh with a tender spot in the groin. He remained in bed four months and then walked with difficulty. Since that time the veins had become prominent. He had no other venous defects and a normal heart. A thrombus explains this class of cases fully. A few cases seem to arise directly after an injury, such as a fracture. This is also

a local condition. Or again, G. R., clerk, 30 years. History of severe constipation for years. A hearty eater. Has indulged freely in alcoholic drinks. Seldom exercised. Troubled with hemorrhoids for four years; frequent attacks of strangulation. This was the only evidence of a varicose condition, and is fully explained by interference with the portal circulation.

A varicocele, however, is not so easily accounted for by a local mechanical cause. Keyes says: "The chief factor in its production is ungratified sexual desire." This idea pervades the literature on the subject, although usually less emphatically expressed. I believe the sexual factor is greatly overestimated, else why should the affection usually be on the left side. Varicocele either alone or combined was present 195 times in the examination reported: 193 cases were on the left side, one case on the right side and one on both sides. Constipation and the peculiar anatomical arrangement of the left spermatic vein in distinction from the right are thought to determine this matter. Assuming that constipation is an important cause of hemorrhoids, if it also causes varicocele we should find the two conditions often associated. But in this report there are 139 cases of hemorrhoids alone, and 121 cases of varicocele alone, and only 30 cases where they are combined. The fact that varicocele usually appears in early manhood does not prove its connection with the sexual function, because varicose veins of the lower extremity in men usually appear at the same period of life. (Bennett—Lectures on varicose veins.) I think we will find difficulty in assigning a local cause for varicocele, and will be better satisfied in considering it an expression of a general weak venous condition.

Gravity and man's upright position are often regarded as the chief cause in determining these venous affections. Hydraulic principles apply in organic as well as in inorganic tubes. Therefore, if gravity is such an important factor, we should find these conditions far more prevalent in tall persons than in short ones. I think our common experience will not confirm such a statement. It is my impression that the reverse is perhaps nearer the truth, viz., that the smaller men of little stature and light weight, have varicocele and varicose veins more frequently than the taller ones. We occasionally see cases of varix at the saphenous opening with slight or no enlargement of the veins of the leg, and also cases of local enlargements in the thigh sometimes of immense size as the chief dilatation. Such examples should make us hesitate to consider gravity as the sole cause of varicosities. For

should we not get the greatest dilatations at the point of greatest pressure—viz : in the leg?

Although the force of gravity as an etiological factor in producing varicose veins from normal veins is perhaps less important than often considered, yet when once a vein begins to dilate, the weight of the blood acts with greater force than in a normal vein. For when the diameter increases, the valves become incompetent and the segments are incorporated into one tube, and the weight of blood in the trunk itself must be supported by the walls of the smaller veins. This fact furnishes an indication for treatment and will be again referred to.

The effect of pregnancy in determining these conditions I think we must not consider at this time, for the cases under discussion are all males.

Bennett in the work already mentioned, basing his conclusions on 574 cases in both sexes, says “. . . it occurs in the active and sedentary, in the weak and strong, in the short as well as the tall, and is to a great extent independent of occupation.”

The same author, acknowledging that some hypothesis other than a mechanical cause is necessary to explain these cases, says they are due to “congenital defects in venous apparatus,” and thinks these defects are often incompetent, abnormally placed, or absence of the valves. Yet valves are entirely absent in the portal system and but few are found in the spermatic veins. (Gray.) Therefore, varicocele probably and hemorrhoids certainly must be explained independently of a valve theory. Further, if congenitally abnormal valves in the veins of the lower extremities are an important cause of varices, one would expect to find at least an occasional case in childhood, something I have not yet seen. I think all varicose conditions are extremely rare in children.

Many authors give weight to heredity as a predisposing cause. Whether we can rest our unsolved problem on that already much overloaded steed, heredity, can be settled only by actual data covering more than one generation, which I think we do not possess.

However, that certain individuals do show a predisposition to develop varicosities without a definite mechanical cause (whether inherited or not I do not venture an opinion) is, I think, the best working hypothesis by which to determine the significance of these conditions and the indications for treatment.

We can agree that a man with a general weakness of the

venous system is suffering from a serious defect that should exclude him from a life position in the public service as fireman, patrolman, soldier, etc. I think we can also agree that a man showing varicosities of two or more sets of veins, or even of one set with a dilated heart, is a case of general weakness of the venous system. **Shall a varicose condition of one set of veins be considered an expression of such a general weakness, either now present or in all probability to be expected?**

If, for example, a varicocele is properly a local condition, it is indeed a trivial affection. It rarely requires operative relief. Its symptoms in the large majority of cases are nil. A suspensory bandage relieves the aching that occasionally is present after long standing. Its effect on the testicle should have no influence in the civil service. Ewing (Med. Record, March '94.) objects most strongly to the army regulations requiring exclusion of recruits for this cause. Keyes says, "it has no connection with varices of the leg or arms." If, on the other hand varicocele is an expression of a general venous weakness, it is an important affair. I have tried to show above that it is difficult to find a satisfactory local mechanical cause to explain this condition. But granted a general venous weakness, it is easy to see why the first expression of its presence may be manifested in the scrotum. Occasionally a man who has been rejected because of a local varicosity has returned on a succeeding year with more than one set of vessels involved.

A. in '91 had varicose veins of lower extremities; in '92 had also a varicocele.

B. in '89 had a varicocele and an aortic systolic murmur; in '91 he had also developed varicose veins of the legs.

D. in '89 was rejected for varicocele and varicose veins; in '92 he had hemorrhoids also.

E. in '91 had a dilated heart with a systolic murmur and varicose veins of the legs; in '92 hemorrhoids were present.

G. Varicose veins and hemorrhoids in '92; in '94 varicocele also.

W. Hemorrhoids in '89; in '92 varicose veins, and in '93 a general weak muscular condition superadded.

If then we accept this theory, that these various varicose conditions are usually (not always) expressions of a general weakness of the venous system, we must change our views on a few points connected with the indications for and methods of surgical treatment. First in reference to varicocele. When the cause of

actual pain or a local disability it should of course be removed. In such a case there is no question raised. But operation is also advised when the varicocele is a cause of rejection from the public service. If this dilatation is an expression of general weakness of the venous system, its removal by operation cannot lessen the probability of the development of varicose veins of the leg with their attendant œdema, ulceration after slight injury and eczema, or of hemorrhoids, or of a dilated heart, as the man reaches middle life. The logical conclusion follows that a man after an operation for varicocele is not a more desirable man to select for a life position than he was before operation. We are also advised to operate for varicocele when the testis is undergoing atrophy. Keyes says, "if all the large veins on both sides of the vas deferens are ligated, atrophy does not come on." Jacobson says, "include a portion of the veins," and says atrophy or occasionally gangrene may follow if all are included.

If the cause of the atrophy is a venous congestion due to an impeded circulation in the pampiniform plexus, can we expect to cure the atrophy by obliterating that plexus? Cheever, of Boston, states that atrophy of the testicle may follow the operation for varicocele.

I operated by the open method on E. C., age 19, in 1890, for a moderate sized varicocele with commencing atrophy. About three-fourths of the veins were included. In Sept. 1894 I examined him. The varicocele had not returned. The testicle was soft and had atrophied to about one sixth the size of its companion. J. E. Mears, of Philadelphia, stated that he had recently examined patients on whom he had performed subcutaneous ligation of the vessels of the cord for varicocele, and in all of them he had observed more or less atrophy of the testis. (*Annals of Surgery*, Feb. '95.)

When there is no atrophy, it may not be produced by the excision, but I do not understand how a degeneration once commenced can be arrested by operation. An external support seems rather to be indicated.

The various operations for varicose veins of the lower extremities are not very satisfactory when we see the patient some months or years after operation. Multiple ligation with cat-gut is highly praised. The immediate results are excellent, due I think in part to the rest in bed and the uniform pressure of the dressings. A woman about 38 years of age, with well marked varicose veins of both legs and thighs, was treated in this manner

in the summer of 1892. Some 75 ligatures were applied. She was in bed four weeks. The immediate result was excellent. Two months after leaving the hospital she returned with many dilated veins (apparently not the ones that had been ligated) and complaining of dull heavy pain in both legs.

I think that this history is often repeated and is important in its bearing on the fact that there is a general weakness of the wall in all the veins of the limb (superficial ones at least) and that this weakness is not confined to the veins already varicosed. With the radical method of excision of all the varicosed veins, I have had no experience. Tillman says, "even after extirpation of the varices recurrences are rather common." This of course can only mean that the varicose condition appears in the veins not so affected at the time of operation and proves a general weakness. I think a more logical procedure, in view of the theory here presented, is the simple operation of ligating the saphenous vein in the groin (Trendelenburg) when used as an adjunct to external mechanical support. A limited experience impresses me most favorably with its practical utility. "Its success is very surprising." (Tillman.) In many patients the following can be demonstrated. If a finger is placed on the saphenous veins in Scarpa's triangle while the patient is recumbent, and kept there while the erect posture is assumed, the veins of the limb will fill slightly and slowly. If the pressure is then removed, a downward wave of blood is apparent and the varicosities fully dilate. In such a case, a ligature on the saphenous vein in the groin will eliminate the weight of the column of blood in the trunk, and with the help of external support temporarily applied, the veins are able to gain some of their lost tone, the superfluous blood is forced out of the extremities and the symptom of weight relieved. On this same principle is founded the treatment invented by Landerer. The incompetent veins which in Trendelenburg's method are supplanted by the ligature in this method are reinforced by a garter bandage exerting pressure on the great saphenous at the highest point of dilatation. The direct local pressure is accomplished without general constriction by a spring carrying a cushion filled with water or glycerine. Ninety out of one hundred cases were cured of all discomfort and complicating ulcers healed rapidly. (*Annals of Surgery*, Aug. '93.) These methods fulfill the indications in a logical manner, while any procedure that obliterates or removes some dilated veins only to put their imperfectly per-

formed functions on other veins already weakened is, I believe, illogical and unsurgical.

DISCUSSION.

Dr. Bristow stated that cases of varicose veins that come to the surgeon for treatment may be divided into two classes—those which are the result of pressure alone and which occur in individuals who are standing most of their working hours; and those varicosities which are the result of position plus pathological changes elsewhere. Any obstruction to venous return, the various cirrhoses and heart lesions, all these conditions may act as a predisposing cause in the production of varicose veins, and where we find such conditions present, we cannot expect to bring about a permanent cure by any operation; but in the quite numerous class first mentioned, in which no such condition exists and the varicosities are the result of position alone, a cure may be expected. The doctor was unable to agree with the writer of the paper in the opinion that gravity had nothing to do with the production of varicose veins, because such changes never occur in the venous circulation of the upper extremities, and if the writer's position be correct, there is no reason why we should not meet with enlarged veins there as well as in the lower extremities. As a fact we never see them. They are very common, however, in the legs where the blood column is the longest and exerts the most pressure. The doctor must satisfactorily account for this fact by some other reason, before he can consider his position tenable as regards the pathology of the subject.

Dr. Fowler said that there will always be cases of varicose veins curable by operative methods, and there will always be cases incurable by any method. Going back to the pathology of varicose veins one is met by the fact that the condition of the tissues which support, or help to support, the veins from without, may play an important part in the production of varicose veins, the changes which produce these varices, having their origin in the failure of the support of the vein from without. In addition to this the weight of the column of blood upon the lower extremities is certainly an important factor. The doctor called attention to the fact also that the ligature of the great vein trunk at its highest point has been followed by brilliant results. Trendelenburg states that he has used this method with almost uniform immediate success and permanent benefit. The doctor stated that he

had operated upon four cases to bring about this result, and upon one incidentally; in all of these cases the results have been satisfactory.

Dr. Fowler stated that operative interference is a very important question in cases of varicocele where the patient is an applicant for a position either in the police or fire department, and who has been rejected because of the varicocele. Candidates have been rejected for hemorrhoids as well as varicocele, but a cure of hemorrhoids does not entitle an applicant to re-examination under the present rule. If the condition of varicocele indicates a general venous weakness which is not likely to be overcome by the removal of the varicocele, then it would be manifestly improper to admit them to public service, after they had been operated upon for varicocele. But that if the opposite is true, and if the varicocele may be looked upon as a purely local condition, and if it stands in the way of their performing efficient service, either as policemen or firemen, its removal means a removal of the disability which was the direct cause of their rejection, and he believed that it would be manifestly proper that they have another opportunity for examination. And the doctor stated that he was also inclined to believe that the application of a proper operation for the relief of hemorrhoids, when these exist and no other varices are present, should also entitle a candidate to re-examination, and admission to service if the hemorrhoids had been cured by one of the radical methods, such as Whitehead's, or the application of the clamp and cautery operation. If the proposition which has been set forth that a general venous disturbance is at the bottom of all these conditions, and that the cure of them simply means the relief of local disturbances be true, and it is definitely understood that this is the ground taken by those examining candidates for public service, then, while ample justification remains for operative interference, patients should not be encouraged in the belief that cure of the local disease will entitle them to re-examination.

The practical deductions drawn from these thoughts upon varicose veins by the doctor, aside from questions as to their pathology, relate chiefly to the question as to what hope can be held out to patients in the event of attempts at radical cure. Referring to Dr. Bristow's remark that varicose veins of the upper extremities are exceedingly rare the doctor said he had never met with a condition of varicose veins above the umbilicus; that occasionally varices are seen upon the abdominal walls in connection

with cirrhosis of the liver. And that the interesting question arises, why should varices occur in veins located at the point where gravity influences the venous circulation to the greatest extent, if gravity or the weight of the column of blood has little or nothing to do with the etiology of enlarged or dilated veins. The doctor stated that he was deeply impressed with the importance of this subject and believed that practical surgeons should be able to satisfy themselves as to what distinction is to be made between cases which are likely to be benefited by operation, and those in whom the presence of varices are indicative of a general or constitutional weakness, and in whom operative interference is contra-indicated by the existence of varices elsewhere.

Dr. Wood stated in closing the discussion that the proposition that he had advanced is not a new one, and is one that does not find general acceptance among surgeons, especially operative surgeons; that surgeons dislike very much to acknowledge that any condition they find is part of a general weakness and is not a local condition which can be removed by operation. In discussing the etiology, the difference of opinion will come in reference to the amount of emphasis placed upon the force of gravity. That of course gravity is one of the determining factors of the condition, but in his opinion gravity alone could not produce varicocele. That it is a difficult matter with an etiology that covers a large number of points to determine to the satisfaction of the surgeon the amount of weight which should be given to each factor; that generally surgeons seem to think that gravity is the most important factor in producing varicoceles. The doctor stated that the regulations in all civil service examinations, in examinations for the army or for the navy, not only in this country, but throughout the civilized world, are based upon the assumption that any varicocele is a serious condition. That the candidates who are excluded from the departments of this city are not excluded because the varicocele is, at the time they are rejected, a serious condition, nor because the varicocele itself is going to do any harm, but because *any* varicocele denotes general weakness; if this view is not true then the regulations referred to are illogical. These appointments are life appointments. It is not a question of five years. In the public service a man's record is for life, and it is on a life service that these regulations must stand, and if any varicosity is an expression of a serious general weakness, present or to come, it is logical not to accept them.

CARBOLIC ACID POISONING.

BY WILLIAM MOSER, M.D.

Pathologist to St. Catherine's Hospital, etc., Brooklyn.

Poisoning by this acid, either through accident or with suicidal intent, is not infrequent. When applied to the skin, it produces a white color, hardens it, and, as is well known, lessens its sensibility. It is because of this latter property that the acid is sometimes used as a local anæsthetic for minor operations. Its action on mucous surfaces is similar to that of the skin, i. e., whitens, corrugates, and hardens it. In five autopsies of carbolic acid poisoning seen by the writer, the gums, tongue, and in fact the whole mouth, were colored white. As one would naturally expect, this discoloration affects the whole alimentary tract. The mucosa of the œsophagus in the cases under observation was smooth and white and could be easily stripped from the muscularis. The mucosa of the stomach was white, with quite prominent rugæ. In opening the stomach, the odor of carbolic acid becomes manifest. The intestines, too, were markedly discolored. The kidneys showed, in one case, principally interstitial changes; in the others, the parenchyma of the organ was mainly involved. According to Neumann, Bruckmüller, and others, fatty degeneration of the cells of the liver and kidneys is a constant pathological accompaniment in poisoning by this acid, changes, then, similar to what occur in phosphorus and arsenical poisoning. I was unable to confirm this, nor are they confirmed by the observations of Salkowski. I doubt if there is any renal lesion peculiar to carbolic acid poisoning. In three of the cases the lungs were congested and œdematous. The remaining internal organs presented no lesion which could be ascribed to the acid. Carbolic acid is eliminated in the urine, to which its colored derivatives impart a green, brown, or black color. The vomited matter is brownish or greenish by reflected light, and has the odor of the acid. Under the microscope, corpora amylacea, fat bodies, small and large, epithelial cells, large flat cells, yeast fungi, *sarcina ventriculi*, a few red and white blood cells, blood crystals and pigment, and in dried specimens fatty needles, were seen. But the most striking picture under the microscope is the extraordinarily large number of muscular fibres. Most of these fibres were normal in appearance, but in a few the tissue was granular and fatty. They were yellowish in color. While a muscular

fibre may be seen now and then in vomited material from varied causes, and is not infrequent in poisoning by other acids, yet it is doubtful if in any other condition more fibres, or in fact as many, occur. "Carbolic acid may be separated from the contents of the stomach by shaking them with ether, decanting the ethereal liquid, and allowing the ether to evaporate. Oily-looking globules of carbolic acid are thus obtained. There is no test for its presence so delicate as the odor." (Taylor.) Death has been caused from the external application of this drug, and care should be exercised in employing it. The treatment consists in the administration of white of egg (albumen). The stomach pump should be employed, since emetics fail to produce the desired result, owing to paralysis of the muscular tissue. "A mixture of castor oil and olive oil, or a mixture of slaked lime with about three times its weight of sugar, rubbed together with a little water, are recommended as antidotes." (Attfeld.) Some recommend sodium sulphate as an antidote. Large numbers of bacteria were present in the vomited matter examined by the writer, the acid, evidently even in cases where quite a quantity had been taken, possesses in this medium very little germicidal action.

158 Ross street, Brooklyn.

SIX HUNDRED (\$600) DOLLARS IN PRIZES.

The special attention of our readers is called to the advertisement of the Palisade Manufacturing Co., with the above title, in this issue.

The prize contest which this well known firm announces will no doubt attract a great deal of attention, and result in the submission of many articles of merit on "The Clinical Value of Antiseptics both Internal and External." The prizes are extremely liberal, and the well known professional and literary eminence of Dr. Frank P. Foster, the talented editor of the New York Medical Journal, who has kindly consented to act as judge, is a sufficient guarantee of the impartiality to be observed in the awarding of the prizes.

We are assured that there is absolutely "no string" attached to the provisions of this contest, and any physician in good standing in the community is invited to compete on equal terms with every other competitor.

Further particulars as to conditions, etc., can be obtained by addressing the above named firm.

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EDITORIAL.

CASTRATION FOR HYPERTROPHIED PROSTATE.

Dr. J. William White, who is the author of the operation of castration for the hypertrophied prostate, has given a full account of it, both historical and surgical, in the July number of the *Annals of Surgery*. In a recent issue of the *Medical News*, he supplements this article by the narration of five additional cases, in each of which the result was most happy and striking. One cannot read the history of these cases without being impressed with the thought that in devising this operation Dr. White has made a contribution to surgery which will make the human race a debtor to him for all future time.

DIPHTHERIA.

If the hint given by Dr. W. W. Browning proves, when a fuller investigation is made, to be a tithe as important as it now seems to be, a new and unsuspected source of diphtheria infection will have been discovered. Dr. Browning was recently called to see a child suffering with diphtheritic croup. On obtaining the history, he found that the affection began with a coryza. A tube was inoculated with the nasal secretion and sent

to the Health Officer, and a pure culture of the Klebs-Loeffler bacillus developed. At this time there were two other children in the same family who had nasal discharge, but showed no constitutional symptoms of diphtheria. Cultures were made from these discharges, and the bacillus was found there also. In still another case in Dr. Browning's practice, that of an infant, the bacillus has been found in the nasal secretion. This last case had some febrile disturbance, but there was nothing to indicate that diphtheria existed.

Following out this suggested line of inquiry, Health Commissioner Emery has requested that in two of the public schools in a section where diphtheria is very prevalent, a watch be kept on children having nasal discharges, and that their names and addresses be sent to him that the inspectors may make cultures. The profession will await the outcome of this investigation with great interest.

The evidence is accumulating that antitoxin is of great value in the treatment of diphtheria, 10,312 cases having been studied in Germany since October 1, 1894. Of this number, 5,833 were treated with antitoxin and 4,479 were not so treated. The mortality of those so treated was 9.6 per cent., while of those not treated it was 14.7 per cent. In a group of children under two years of age, 401 in number, who received the antitoxin treatment, but 11.8 per cent. died, as against 39.7 per cent. without the antitoxin treatment.

Equally satisfactory is the evidence in favor of the immunizing power of the antitoxin in infected families. The statistics of Dr. Biggs, in the Medical News of November 30, confirm what has been claimed in this regard. Dr. Biggs sums up his opinion in the following statement:

By the use of the antitoxin it has been possible to stamp out completely diphtheria in four great institutions for the care of children, in which it was prevailing in more or less epidemic form. In no instance has there been, so far as can be determined, any serious results from the administration of the remedy for this purpose.

The duration of immunity in many cases is apparently not more than thirty days, but it may be for a much longer period. The doses required to confer immunity are probably between 50 and 300 antitoxin units, according to the age of the individual treated.

The present status of the seropathic treatment of other diseases than diphtheria is, to say the least, very encouraging. In Paris it has apparently been very efficacious in protecting horses

from tetanus, and experimental evidence is being accumulated as to its efficacy in human beings in typhoid fever, although this is still *sub judice*.

PROCEEDINGS OF SOCIETIES.

BROOKLYN GYNECOLOGICAL SOCIETY.

Stated Monthly Meeting, November 1st, 1895.

The President, Dr. A. Ross Matheson, in the Chair.

PRESENTATION OF SPECIMENS AND INSTRUMENTS.

Dr. Ernest Palmer presented the following specimens :

The first specimen is one of double cystic degeneration of the ovaries, with extensive interstitial thickening. Operation October 8th, 1895 ; discharged cured, October 31st, 1895.

The second specimen is one of ovarian cystoma of the left ovary. This specimen beautifully illustrates a papillomatous degeneration of the sac wall and the ovary of the right side. Operated, October 11th, 1895 ; discharged cured, October 31st, 1895.

The third specimen is one of fibroid polypus of the uterus. Operated, October 12th, 1895 ; discharged cured, October 19th, 1895.

The fourth specimen is one of myoma of the uterus, removed by abdominal hysterectomy. In this case, an examination made two months previous to the operation, made of a portion of the anus, it was pronounced to be an adenoma, on the border line of cancer, but from several specimens examined since removal of the uterus it was found to be undoubted myoma. Operated, October 24th, 1895 ; discharged cured, November 14th, 1895.

The fifth specimen is one of double pyo-salpinx, hysterectomy and appendicectomy. Operation October 26th, and the patient to-day is doing well.

DISCUSSION ON DR. PALMER'S CASES.

Dr. A. J. C. Skene : There is enough material here, Mr. President, for a whole evening's discussion, but I shall only note some of the points of special interest to me.

First, the case of fibroid polyp. It illustrates, I think, very beautifully, the difficulty in making an accurate diagnosis on first examination, when the capsule of the fibroid is in the condi-

tion in which we found it in this case. It was very much thickened, presented the cauliflower appearance of epithelioma, and a necrosis had begun at a given point, giving it the appearance of an epithelioma beginning to break down. The only differential point in the diagnosis was that it was pedunculated, something which never occurs in cases of epithelioma. My diagnosis was fibrous polypus, with possibly epithelioma of the mucous membrane or capsule, and in that of course I was mistaken. But the history simply goes to show that it is not an easy matter to be sure of the diagnosis without a microscopical examination.

The next case of interest is the case of hysterectomy where the pathologist made a diagnosis of adenoma, guarding himself by stating that it was on the boundary line, and I think there is some reason for the pathologist taking that ground, because I fancy that in many of these cases the epithelioma of the body of the uterus is preceded by adenoma, and it is not easy to say when in the history of the case the adenoma is followed by epithelioma. I make that statement on the ground that I have often seen cases of metrorrhagia in women approaching the menopause, that I have curetted and arrested the hemorrhage by the removal of adenomatous tissue, and subsequently they have had epithelioma. The walls of that uterus were so thick—thicker than I have ever seen in a case of simple adenoma—that I can hardly imagine that this uterus is free from malignant disease.

The case of hysterectomy for double pyo-salpinx brings up the question of the methods of operating. You know that many nowadays believe that it is easier to remove the uterus with a pair of pus tubes than it is to operate in the old way—removing tubes and ovaries and leaving the uterus—and that it is better for the patient. I am not at all sure that the latter statement is the true one. I do not know how much better a patient is by having a useless uterus removed at the time of removing the ovaries and tubes. I say “useless” because the uterus is practically made useless by the removal of the tubes and ovaries. But I know certainly that it is easier in some cases to do the hysterectomy, as well as remove the tubes and ovaries, than to let the uterus remain, especially in a case like this one of Dr. Palmer's, where on one side at least the abscess extended up, I might say, into the wall of the uterus, so that it was impossible to separate the tube from the uterus and ligate it.

Now, in all these cases where the distension of the tube extends up to the uterus, and where the adhesions to the broad liga-

ment are extensive and strong, and where you cannot separate the tube from the ligament and uterus easily, I am sure it is better to remove the whole thing. It can be done more quickly; it leaves the parts perfectly clean; you remove the diseased part of the ligaments as well as diseased organs; you can ligate the vessels with more facility and leave the pelvis in a cleaner condition, with smaller stumps and less abraded surface. So that while I am not sure that it is correct and wise to say that whenever it is necessary to remove both ovaries and tubes, that the uterus should always be removed also (that is what is taught by some at the present day). I am not sure that it is the final conclusion that will be arrived at by further experience, but I do believe that in cases such as I have mentioned, where it is almost impossible to separate the tubes from the uterus and broad ligament without leaving great raw surfaces, which are in all probability contaminated by septic material, it is infinitely better to remove all.

Dr. W. B. Chase: Dr. Palmer has given us so much of interest that we will hardly be able to cover the whole ground in this discussion.

I was particularly interested myself in that specimen of cystoma, with papilloma. The question of the etiology of these complex multiple cysts of the ovary is certainly a very interesting one, and particularly some recent statement which has been made concerning the rapid growth of dermoid cysts, usually regarded to have been very slow in developing, it seems, by Bland Sutton; the result of his observation is that they may grow in a very brief period of time. I am reminded of a large cyst I removed something more than a year ago which I may some time present to this or some other society, which to me was one of unusual interest. So far as the diagnosis was made, it was supposed to be an ovarian cyst, but one side of it gave the impression of being thicker and having a greater degree of resistance, and on removing it, it presented what to me was a very remarkable state of affairs, namely, a cyst of the right ovary, containing some three or four gallons of fluid; directly in contact with it a dermoid, which contained a pint of fluid, and within the walls of this dermoid were developed five cystic papillomas. All the several ones were encysted in the wall of this dermoid, making three separate specimens in one cyst.

The pathology of papilloma is, I believe, regarded as malignant, or on the very border line, and to get this benign and ma-

lignant or semi-malignant growths, as the doctor has found in this case and in the one I refer to, are matters of interest, and, I think, of not very common occurrence.

Dr. John Byrne: I understood Dr. Palmer to state that this case of hysterectomy was performed by the double operation, partly vaginal and partly abdominal. With regard to cases similar to this, I would like to remark that tubes and ovaries in such a condition could never be removed in a surgical manner per vaginam, but only by mauling and sheer strength of muscle.

I think, in all such cases, and where the difficulties in the upper pelvis are surmised and well grounded, the operation of abdominal hysterectomy is very much simplified by doing a partial vaginal hysterectomy in the first place. The abdominal part of the operation is rendered at least one-half as troublesome by this proceeding.

Now, if the case be one which will admit of a double operation of that kind, and if the vaginal part of the operation be done by cautery, you not only facilitate the abdominal part of the work, but your primary operation does not by any means add to the danger of the whole operative proceeding. In several cases I have adopted that method, especially in the removal of myomatous tumors, and in other cases. I have always been struck with the comparative facility with which the abdominal part of the operation can be conducted and completed, if you have first secured your uterine arteries. We all know that if a myomatus uterus, or a large myoma firmly and closely attached to the uterus and perhaps bound by adhesions, is to be removed, it is a very difficult matter to get at the uterine artery, unless the tumor is disposed of in fragments. I would suggest, therefore, that in all such cases, where an abdominal operation is contemplated, if it be possible, the vaginal part of a hysterectomy should be first done. There are cases where I know it will be impossible; for example, where displacement of the uterus, on account of the growth of the neoplasm, or whatever it may be, will render it very difficult to know where to look for the uterine artery. A case of that kind just occurred three days ago in my practice. The specimen of the case will be presented here at a future time.

Dr. L. Grant Baldwin: This case of Dr. Palmer's brings out a point which I have thought a good deal about, and that is the similarity in the symptoms of rupture of a pus tube and those of rupture of an ectopic pregnancy, which I think is not sufficiently dwelt upon in the literature of the subject. The two con-

ditions are almost identical as to their clinical pictures. If I mistake not, Dr. Palmer expected this was a hæmatocele.

RELATION OF DR. PALMER'S CASES.

Dr. George McNaughton : In speaking of doing hysterectomy where pus tubes are removed, as Dr. Skene suggested, if that is done after the tube has burst, it seems to me, if you did a hysterectomy under such circumstances, you would increase the danger of invading the peritoneal cavity with pus. The inflammatory products make a sac which holds the pus pretty well in the pelvis, even with the patient in the Trendelenburg position, and if you at once do a hysterectomy, it seems to me it would increase the danger of general sepsis, as you have a protecting wall of inflammatory material around which can be held up with forceps, as in Dr. Palmer's case. I do not think that a particle reached the peritoneal cavity. At the start, the intestines were covered with towels, and, in the second place, the posterior part of this inflammatory shield was held up by means of forceps, and the sponging was all done beneath that.

Another point in leaving the uterus in ; for instance, in case mentioned, if this uterus had been left in the pelvis, there would have remained behind the uterus a denuded portion which could not have been covered with the peritoneum, and under these circumstances the intestines would naturally have dropped down directly behind the uterus, and adhesions might have formed between the intestines and uterus, and I believe very often after such operations this is the cause of some obstruction of the bowel. If such a denuded surface must be left, I think it is very much better to take out the organ. I have a patient now who is in exactly that position. I believe the denuded surface left in this case probably became attached to the intestines and she is suffering from threatened obstruction of the bowel.

READING OF PAPERS.

Dr. John Byrne presented the paper of the evening, entitled "Remarks on Minor Gynecology."

Discussed by Drs. A. J. C. Skene, Palmer, Maddren, L. G. Baldwin, Kortright, MacEvitt, Emery and Chase.

EXECUTIVE SESSION.

The report of the obituary committee on the late Dr. Geo. E. Law was presented by Dr. W. B. Chase, and on motion duly seconded and carried. The report and resolutions were ordered published in the *BROOKLYN MEDICAL JOURNAL*, and a copy sent to the wife of Dr. Law.

The report of the obituary committee having been received, the committee was discharged.

There being no further business, on motion the meeting adjourned.

FRANK BALDWIN, M. D.,
Secretary.

THE KINGS COUNTY MEDICAL ASSOCIATION.

At the January meeting Dr. George Henry Fox will present "The Diagnostic Features of Cutaneous Syphilis," illustrated by lantern slides.

TRI-STATE MEDICAL SOCIETY.

At the last meeting of the Tri-State Medical Society (of Iowa, Illinois and Missouri) the following officers were elected: President, Dr. Robert H. Babcock, Chicago; first vice-president, Dr. A. H. Cordier, Kansas City; second vice-president, Dr. W. A. Todd, Chariton, Ia.; treasurer, Dr. C. S. Chase, Waterloo, Ia.; secretary, Dr. G. W. Cale, St. Louis.

The next meeting will be held in Chicago, the first Tuesday, Wednesday and Thursday in April, 1896.

MEDICAL SOCIETY COUNTY OF KINGS.

A regular meeting of the Medical Society of the County of Kings was held at the Society Building, 356 Bridge street, on Tuesday evening, November 19th, 1895, at 8:30 o'clock.

The President, Dr. George McNaughton, in the chair.

There were about seventy-five members present.

The minutes of the October meeting were read and approved.

REPORT OF COUNCIL.

The Council reported favorably on the applications of Dr. G. Morgan Muren and Dr. Edward C. Kroos, and recommended that they be elected to membership.

The Council also recommended that \$25 be appropriated toward telephone legislation, and that the present committee be discharged, at its own request, and a new committee of five appointed.

In reference to the request for the judgment of the Society in

regard to the publication of the *Index Medicus*—which was referred to the Council—as to the advisability of beginning the *Index Medicus* with the month succeeding the last issue, the Council recommended that it be begun from May, 1895, and also recommended that a committee of three be appointed, consisting of the president, secretary and librarian, to prepare a letter urging congressmen from this county to take action in the matter.

On motion duly seconded and carried, the above report of Council was adopted.

APPLICATIONS FOR MEMBERSHIP.

The secretary presented the following propositions for membership :

Dr. Martin Linderoth, 50 Greene avenue, L. I. C. H., 1895.

Dr. Mary de Booij Ingram, Ann Arbor, Mich., 1893.

Dr. William Francis Moran, 59 Dean street, L. I. C. H., 1895.

Dr. Samuel Howard Monell, 865 Union street, Bell. Hosp. M. Coll., 1890.

Dr. William W. Laing, 524 Putnam avenue, Coll. P. & S., N. Y., 1894.

Dr. Daniel R. Stratton, Kings Co. Hosp., N. Y. Univ., 1895.

Dr. Stephen L. Pettit, Kings Co. Hosp., L. I. C. H., 1895.

Dr. Joseph F. Todd, Kings Co. Hosp., L. I. C. H., 1895.

Dr. Thomas C. Craig, U. S. N., Navy Yard, Brooklyn, Univ. Penn., 1880.

Dr. L. S. Langstaff, 19 Seventh avenue, Victoria Univ., Ont., Can., 1884.

Dr. Franklin Bennett, 686 Greene avenue, Med. Dep. N. Y. Univ.

ELECTION OF MEMBERS.

The following applicants, having been regularly proposed and favorably reported upon by Council, were declared by the president elected to membership :

Dr. Russell S. Fowler, Columbia, 1895.

Dr. George V. Rockwell, Bell. Hosp. Med. Coll., 1882.

Dr. A. M. Judd, Columbia, 1893.

Dr. Morris G. White, L. I. C. H., 1895.

Dr. Charles T. Hepp, L. I. C. H., 1882.

Dr. W. H. Beardsley, Bell. Hosp. Med. Coll., 1876.

Dr. John W. Sansom, Univ. Vermont, 1895.

Dr. Charles B. Curran, L. I. C. H., 1893.

CORRESPONDING MEMBERSHIP.

Dr. Frank Terry Brooks, Greenwich, Conn.

SCIENTIFIC BUSINESS.

"Presentation of a Modified Urethrotome," by J. M. Winfield, M. D.

Discussed by Dr. H. B. Delatour.

"The Radical Cure of Inguinal Hernia in the Male," by J. Bion Bogart, M. D.

Discussed by Drs. Delatour, A. T. Bristow and J. S. Wight.

"Flat Chest; Its Prevention and Correction," by Eliza M. Mosher, M. D.

Discussed by Dr. George A. Evans.

OBITUARY.

The president announced the death of the following members, which matter was referred to the historical committee in regular course for report, viz :

Dr. F. B. Gillette.

Dr. J. L. Zabriskie.

Dr. Richmond Lennox.

NEW BUSINESS.

The chairman announced that Surgeon General John S. Billings would deliver a lecture on "Diseases Incident to Occupation," at Assembly Hall, Pratt Institute, on Thursday, December 5th, 1895, to which all members of the profession were invited.

On motion adjourned.

Stated Meeting December 17, 1895.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society Building, 356 Bridge street, on Tuesday evening, December 17th, 1895, at 8.30 o'clock.

The President, Dr. Geo. McNaughton, in the Chair.

There were about 100 members present.

The minutes of the November meeting were read and approved.

REPORT OF COUNCIL.

The Council reported favorably upon the following applications and recommended that the applicants be elected to membership :

Dr. Wm. W. Laing, Coll. P. and S., N. Y., '94.

Dr. Daniel R. Stratton, N. Y. Univ., '95.

Dr. L. S. Pettit, L. I. C. H., '95.

Dr. J. F. Todd, L. I. C. H., '95.

Dr. Wm. F. Moran, L. I. C. H., '95.

Dr. S. H. Monell, Bell. Hosp. Med. Coll., '90.

Dr. Thos. C. Craig, U. S. N., Univ. Penn., '80.

Dr. Martin Linderöth, L. I. C. H., '95.

Dr. Frank A. Cook, N. Y. Univ., '90.

Dr. Florence L. Jones, Wom. Med. Coll., Pa., '95.

APPLICATIONS FOR MEMBERSHIP.

The Secretary presented the following propositions for membership:

Dr. Louis N. Anderson, 149 Taylor street, P. and S., N. Y., 1895; proposed by Dr. W. B. Chase; Dr. D. Myerle.

Dr. Paul Heuser, 178 Lorimer street, Greifswald, Germany, 1872; proposed by Committee on Membership.

Dr. Charles Lathrop Dodge, 161 Bainbridge street, Baltimore Med. Coll., 1890; proposed by Committee on Membership.

Dr. John R. Stivers, 143 Leffert's Place, L. I. C. H., 1894; proposed by William Browning, M.D.; Chas. N. Cox, M.D.

Dr. James J. Bowen, 782 Hancock street; proposed by Dr. D. Myerle; Dr. Geo. McNaughton.

ELECTION OF MEMBERS.

The following having been regularly proposed and favorably acted upon by Council were declared by the President elected to membership:

Dr. G. Morgan Muren.

Dr. Edward C. Kroos.

SCIENTIFIC BUSINESS.

Dr. E. H. Bartley presented a new form of steam vaporizer and inhaler, and gave a demonstration of its operation.

Discussed by Drs. Evans and Maddren.

Dr. E. H. Bartley presented the paper of the evening, on "Excessive Intestinal Fermentations."

Discussed by Drs. J. A. McCorkle, H. A. Fairbairn, J. Fuhs, and B. M. Briggs.

NOMINATION OF OFFICERS AND DELEGATES.

Previous to proceeding to the business of nominating officers, Dr. Francis Stuart called the attention of the Society to the relation which their action at this meeting and the annual meeting, in nominating and electing officers for the ensuing year, would have on the work of securing the new building which the Society contemplates. He referred to the New York Academy of Medicine, already founded and on a firm foundation, and stated that that was largely inaugurated and completed under the presidency

of one man; he referred to the terms of office of some of the former presidents of this Society and of the English medical societies, four, five and six years; in short, he thought it might be stated as a general proposition that it was unwise for the Society in this present juncture to change its officers.

He therefore nominated for President for the ensuing year, the present President, Dr. Geo. McNaughton.

Seconded by Dr. Hunt.

Dr. Emery moved that the nominations close.

The Chair stated that the by-law called for the nomination of two candidates for each office.

Dr. Hunt moved that all of the old officers be nominated for the ensuing year.

The Chair ruled that Dr. Hunt's motion was not in order.

Dr. Emery amended his motion to read, "that the nominations close, and the Council make the further nomination necessary—this to apply in each case where there was but one candidate nominated for an office."

Seconded and carried.

The nominations resulted as follows :

President.

George W. McNaughton, M.D.

Vice-President.

Joseph H. Hunt, M.D.

Secretary.

David Myerle, M.D.

Assistant-Secretary.

Wm. C. Braislin, M.D.

Treasurer.

Charles N. Cox, M.D.

Assistant-Treasurer.

O. A. Gordon, M.D.

Librarian.

William Browning, M.D.

Censors.

J. M. Winfield, M.D.,
James L. Kortright, M.D.,
J. M. Van Cott, Jr., M.D.,
Joel W. Hyde, M.D.,
Wm. W. Browning, M.D.,
E. P. Hickok, M.D.,

B. F. Lucas, M.D.,
J. W. Fleming, M.D.,
H. A. Fairbairn, M.D.,
J. T. Duryea, M.D.,
W. Applegate, M.D.,
J. C. Mac Evitt, M.D.

One Trustee (to succeed Dr. W. B. Chase).

Walter B. Chase, M.D.,

D. G. Bodkin, M.D.

Delegates to State Medical Society.

R. J. Morrison, M.D.,

J. Fuhs, M.D.,

C. D. Napier, M.D.,

Z. T. Dunning, M.D.,

H. A. Bunker, M.D.,

Hall Brown, M.D.,

O. A. Gordon, M.D.,

E. H. Bartley, M.D.,

Fred'k J. Shoop, M.D.,

Wm. Butler, M.D.,

James P. Warbasse, M.D.,

J. W. Ingalls, M.D.,

Eliza M. Mosher, M.D.,

Scott Wood, M.D.

NEW BUSINESS.

Dr. Hunt stated that Captain Charters, who for twenty-two years had been connected with the Society and looked after its interests, had during the last week met with a severe affliction in the loss of his wife, and moved that the Society tender its sympathy to Captain Charters in his bereavement.

This motion was seconded and unanimously carried, and the Secretary was requested to communicate with Captain Charters accordingly.

Dr. Geo. A. Evans offered the following resolutions :

WHEREAS, A verdict for damages was recently given in this city against Dr. H. L. Schelling, a member of this Society, as a medical officer of the Health Department, on the allegation of a certain plaintiff that the Doctor had vaccinated him against his will, using force to compel his submission at a time when said plaintiff was afflicted with a tumor of the brain ; and

WHEREAS, The Medical Society of the County of Kings believe that Dr. Schelling acted in perfect good faith and in the proper discharge of his duty as an officer of the Health Department in attempting to vaccinate the unwilling plaintiff ; be it therefore

Resolved, That the Medical Society of the County of Kings commends the aforesaid action of Dr. Schelling and desires to tender to him their sympathy for the hardship imposed by the verdict referred to ; and further

Resolved, That this Society is of the opinion that the present is a fitting occasion to stimulate a public sentiment looking to the correction of such bad law as allows these verdicts of personal damages to be rendered from time to time against the members of the medical profession, in the discharge of their duties for the public good ; and

Resolved, That the Secretary be instructed to furnish a copy of these resolutions for publication in each of the daily papers.

On motion duly seconded and carried the above resolutions were unanimously adopted.

There being no further business, on motion the meeting adjourned.

D. MYERLE, M.D., Secretary.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

The renomination of the officers of this Society for the year 1896 is a well-deserved tribute, and the result should be a unanimous re-election. Never in the history of the organization has more zealous or more intelligent work been done by the officers of the Society than during the year just closed, and it would be unfortunate were a change now to be made. The project for a new building has made rapid strides under their fostering care, and the time has come when the experience they have gained in promoting it is beginning to bear fruit; to displace them now means an indefinite postponement of the Society's new home. The duties of the officers are onerous, especially that of the president, but we hope that for the future welfare of the Society they will consent to keep on the harness for another year.—[EDITOR.]

PROGRESS IN MEDICINE.

OBSTETRICS.

CHARLES JEWETT, M.D., SC.D.

BACTERIOLOGICAL EXAMINATION OF THE FEMALE GENITAL SECRETIONS IN PREGNANCY AND THE PUERPERIUM.

Max Walthard (Arch. f. Gyn., 48 Band 2 Heft.) The results of the authors' investigations are summarized in the following conclusions:

The vaginal secretions of untouched pregnancy contain not infrequently puerperal germs, viz.: streptococci, staphylococci, gonococci, and bacteria coli. In 27% streptococci were found which could not be distinguished from the streptococci of the puerperium, except that they lacked virulence.

Of one hundred cases in which the vaginal secretions were examined, in only fourteen were Döderlein's observations confirmed. Acidity of the vaginal secretion does not exclude the presence of streptococci in condition to take on active development.

Fifty examinations of pregnant cases showed that the pure mucus of the cervical canal is not a culture medium favorable to the growth of bacteria. It acts in some degree as a bar to the bacterial invasion of the uterine cavity. The limit between the bacteria-free and bacteria-containing part of the genital tract in a pregnant woman is found in the cervical canal.

Implantation of the morphological elements of the vaginal secretion in the otherwise germ-free cervix by manual exploration is possible, and in all examinations carried above the *os externum* without previous vaginal disinfection is probable. The germ contents of the vagina are diminished, but never wholly abolished by the flow of waters after rupture of the membranes.

The vaginal micro-organisms do not spontaneously invade the uterine cavity during the puerperium. The uterine infection occurs during labor. The dangers of high examinations (above the *os uteri*) are obvious.

The virulence of streptococci is not increased by cultures in liquor amnii. The innocuous vaginal streptococci acquired some degree of virulence in cultures made in lochia, but none to the extent observed in fresh streptococci from phlegmon or from the lochia of puerperal fever. The vaginal streptococci act as saprophytes (without virulence) causing simple resorption fever.

The vaginal streptococci can, like the intestinal streptococci, attain a parasitic character, if the resistance of the tissues in which they are found is lowered. The degree of the virulence which the original streptococci then may attain, may equal that of the puerperal streptococci. Puerperal fever caused by vaginal streptococci is therefore to be excluded from the pathology of child-bed.

The occurrence of puerperal fever (pure toxæmia resorption fever) caused by vaginal streptococci of a saprophytic nature is to be avoided by preventing intra-uterine infection, a danger always present in manual and instrumental operations.

The existence of puerperal fever caused by the virulent growth of vaginal streptococci in damaged tissue can be prevented, if in all difficult labors the vagina is thoroughly disinfected.

A prophylactic disinfection of the vagina during labor is indicated in all cases before examination or operative interference above the *os externum*, in all irregular births, in all diseases which impair the general resisting powers such as nephritis, uncompensated heart lesions, syphilis, diabetes, anæmia, &c.

DISEASES OF THE THROAT AND NOSE.

BY WM. F. DUDLEY, M.D.

THE SURGICAL TREATMENT OF LARYNGEAL TUBERCULOSIS.

This subject received important consideration at the last annual meeting of the British Laryngological Association (as reported in the *Journal of Lar., Rhinol. and Otol.*, Vol. ix., Nos. 8 and 9). Dr. Krause, of Berlin, and Dr. Heryng, of Warsaw, initiated radical operative procedures for the cure or relief of this disease, and are the most successful of those who have adopted the method.

Since 1885 Dr. Krause has advocated the use of lactic acid, to be applied locally to tubercular ulcers of the larynx. He now insists that in accordance with the established principles of surgery, all infiltrations and ulcerations should be removed first down to the healthy underlying tissue. A cure may be expected in only selected cases, but relief by excision may be rendered to those cases of marked dysphagia in which patients prefer starvation to the pain of swallowing, even if the fever be high and the other constitutional symptoms advanced.

The operation is rarely completed at one sitting.

The most diseased tissue should be attacked first.

The infiltration of structures about the sites of operations diminishes, permitting greater accuracy and completeness of later excisions.

All diseased portions of the larynx should be removed by the operation.

Tubercular tissue, including cartilage, cicatrizes well after operation.

The results of the first operation determine the prognosis of the case.

Tissues are hopeless which refuse to cicatrize, owing to advanced degeneration, the organism having lost its power of resistance to the formation of pathological vegetations.

Cicatrization may be advanced by the use of lactic acid after cutting. No other remedy has given so much success.

The fever and reaction are slight following these procedures.

An improved mental and physical condition results from relief from pain and better nutrition. Laryngeal cure may be effected, lasting until death, while the pulmonary disease progresses.

Laryngeal relapses, after thorough surgical treatment, are rarer than pulmonary ones.

Dr. Heryng's conclusions are as follows: Laryngeal phthisis may heal without any local treatment, especially cases in which the ulcerations are not deep. The most favorable sites are the vocal bands and posterior wall of the larynx.

The chief indication is relief from dysphagia, which exists in most cases. If obstruction to breathing is due to tubercular infiltration and proliferation, the tissue causing stenosis must be first attacked. This condition is found only in special cases, and is much more rare than dysphagia.

The heading of deep ulcers situated in infiltrated areas is best and most quickly effected by removal of the tubercular tissue.

"The surgical treatment is indicated:—

1. In tubercular tumors of the epiglottis.
2. In circumscribed tumor-like infiltrations of the posterior wall of the larynx, which show little inclination to break down.
3. In chronic tumors resting on an inflammatory base, surrounded with proliferation products, which resist all other methods of treatment.
4. In partial disease of the larynx, when the epiglottis, false cords, and lateral ligaments are affected.

Surgical treatment is contra-indicated:—

1. In advanced phthisis of the lungs, with hectic and wasting.
2. In diffuse miliary tubercle of the larynx and pharynx.
3. In all cachectic conditions.
4. In severe stenosis of the larynx, caused by inflammatory swelling of the affected parts. In these cases tracheotomy must be performed as soon as possible."

The operation is not attended by excessive pain when cocaine is properly applied; its subcutaneous injection is not necessary.

Pyoktanin solution (one or two per cent.) applied to the wound twice daily combats the inflammatory process.

Nearly the whole upper portion of the larynx is accessible to surgical treatment.

The single and double curette are each best adapted to certain cases.

Serious bleeding is very infrequent; such hemorrhage as occurs may be stopped by applying lactic acid in combination with perchloride of iron.

Even in cases most successfully operated upon, no positive promise of cure can be given.

The majority of cases of laryngeal tuberculosis die of pulmonary tuberculosis. Many cases can be relieved of dysphagia, dysphonia, and dyspnœa.

Some cases recorded present undeniable anatomical proof of complete cure of the tubercular disease in the larynx.

HISTORICAL DEPARTMENT.

DR. BENJAMIN FRANK WESTBROOK.

Dr. Benjamin Frank Westbrook, of Brooklyn, was born February 4th, 1851, at St. Louis, Missouri. His father was George W. Westbrook, of New York, and his mother Harriet Ranson, of Woodstock, Vermont. His grandfather, Cherrick Westbrook, was English.

His education was gotten at the public schools, at the College of the City of New York, and at the Long Island College Hospital. He graduated in 1874, his preceptor being William W. Reese. He served as interne at the Long Island College Hospital in 1875, and was in practice in Brooklyn from 1876 to 1895, at 174 Clinton Street. May 18th, 1881, he married Miss Fannie Abeken and they had one child, Francis A. Westbrook, who, with his widow, survives him. He died of pneumonia April 12th, 1895.

The medical positions which Dr. Westbrook held were lecturer on anatomy at the Long Island College Hospital during 1879-'80; lecturer on anatomy and pathological anatomy, 1880-'82; visiting physician at the Methodist Episcopal and St. Mary's Hospitals; censor of the Medical Society of the County of Kings, 1881-'84; vice-president, 1885-'86.

Dr. Westbrook was a member of the following medical societies: Brooklyn Anatomical and Surgical Society, vice-president in 1881; Long Island College Alumni Association, president in 1886; Brooklyn Pathological Society, president in 1894; New York Academy of Medicine, 1887; New York Physicians' Mutual Aid Association; New York German Medical Society; American Climatological Society, and American Laryngological Society.

His chief contributions to medical literature are: "Ætiology of Pulmonary Phthisis," 1884; "Pneumatic Differentiation," 1886; "Treatment of Fevers;" "A Method for the Surgical Treatment of

Sero-Fibrinous Pleurisy," 1887; "Pleurisy as a Predisposing Cause of Phthisis Pulmonalis;" "On the Treatment of Aneurism by Iodide of Potassium," 1881; "On Abstraction of Blood From the Right Heart as a Means of Relieving Intense Pulmonary Congestion;" "On Cough as a Symptom of Disease."

This bald statement of facts gives no idea of the character of the man, nor can any statement that one can make in a few lines. Character escapes analysis. One wonders, in all but a few of the greatest biographies, what it was that made on the friends of the great man such an impression of power or that won to him such affectionate enthusiasm. One must believe these things to have been true because of the strength of the statement that is made, but the impression is to be found between the lines rather than in them. For Dr. Westbrook's friends it is very hard to state in words exactly wherein lay that power that begot among them an unlimited faith in his ability to achieve whatever he should lay his hand to, or to win not only devoted admiration but deep and warm affection.

Dr. Westbrook combined in his character the essential qualifications of the good physician. A heart throbbing with intense humanity and enthusiasm for the relief of suffering was coupled with a brain of the most scientific order. Earnest in the pursuit of truth, almost unerring in instinct, of tireless patience in research, his mind possessed the rare combination of quick intuition in grasping a situation as a whole, with indefatigable industry and care in the pursuit of detail. While his quick eye and acute ear would seem almost in a moment to seize upon the salient features of a case, the opinion was only expressed after a painstaking investigation of all seemingly minor points.

As a student, Dr. Westbrook was alert, quick-witted, careful, painstaking and thorough. No point in an investigation escaped him and every question was fully sifted and weighed. He was a master of those fundamental branches of science upon which the practice of medicine is based. As a practitioner of medicine he well represented the ideal family physician. Full of sympathy for the suffering, which showed itself in the kindly tones of his voice and gentle manner rather than by effusive expressions, his patients were his friends and his daily call to the sick-room was a daily benediction. His power of observation was remarkable. To one unacquainted with his methods, his professional visit to a patient would seem but as a call of a friend. The few questions he would ask appeared but as sympathetic

expressions of interest in the welfare of the other, and yet when the visit was finished, not the slightest detail in the condition of the patient had escaped him and all had been fully weighed and measured.

His diagnostic acumen and therapeutic skill were well known to his professional brethren of Brooklyn and resulted in a large consulting practice, which would have been much larger were it not that for the last ten years of his life he was seriously handicapped by ill health, consequent upon an attack of diphtheria contracted in the course of his professional work.

In his relation to other physicians he was always courteous, kindly, regardful of their opinions and their rights, ready at any sacrifice to render them all the assistance in his power, and no matter how fully occupied his time might be, dropping everything and going to any distance in response to the call of one of them for aid.

As a man he was broad, liberal, kindly, sympathetic, the faithful friend and the wise counselor. He had a thoroughly scientific cast of mind; a power of original thinking that made facts assume new and instructive relations when treated by him; wide reading, and with it a minute attention to practical details in clinical or pathological work, and a habit of patient and persevering study of cases and things until a thorough comprehension was assured. His qualities of mind would have assured him success in almost any field of effort requiring intellectual power. His courage and firmness never wavered either in his professional work or in the defense of his friends or of his personal rights. His personality was winning and confidence-inspiring, and few men have drawn their friends and clients more firmly to them.

The same characteristics which were prominent in Dr. Westbrook's private work, were also conspicuous in his more public duties. As a teacher he had the power of clear statement and logical arrangement, based upon a thorough knowledge of his subject. He possessed the faculty of stimulating, interesting and drawing out the working ability of his pupils. His oral teaching was remarkable for a minimum of words and a maximum of ideas. His enthusiasm for his work was contagious. His attitude to his pupils was always that of a fellow enquirer. Nothing was farther from him than dogmatism. The reason for his position was always shown, or rather it was drawn out from the

pupil himself. "There was always the out-reached hand bringing up the laggards."

He was always generous in his hospital work, giving internes and assistants ample opportunities for work, and more than willing to bestow credit where it was due. His diagnostic and therapeutic skill as shown in this part of his work was very remarkable, and his acumen was rarely at fault, even in the most obscure cases. Illness, with the demands of his private practice, interfered with and finally compelled him to resign from nearly all active hospital work.

R. L. DICKINSON,	} Committee.
G. R. BUTLER,	
I. H. PLATT,	

MINUTE ON THE DEATH OF DR. GEORGE W. LAW.

After existence of five years death has entered this circle. In the removal of Dr. George W. Law the Brooklyn Gynecological Society has suffered a grievous and irreparable loss. Of gentle but heroic mould, he had endeared himself to every fellow of the society. His standards of action were unselfish and lofty. His ambition was not for parade or public applause, but for intrinsic excellence. In the possession of these qualities of mind and heart which go to make genuine manhood, he was the peer of any fellow in the society.

To those who knew him best his modesty and retiring nature only served to deepen our admiration of him. His life was a constant benediction, and his memory will be a lasting inspiration to those who lived in his presence and walked by his side.

In singleness of purpose to attain that which was truest and best, we can safely copy his example.

While he has passed from our sight "we mourn not as those without hope," in the confident belief that he has passed to a sphere of higher and nobler activities.

Your committee desires to express to the widow and children of Dr. Law their sentiment of sorrow and sympathy in this their sore affliction.

It is also recommended that this minute be placed on the records of the society and a copy of the same be published in the Brooklyn Medical Journal.

Committee Brooklyn Gynecological Society	{	WALTER B. CHASE,
		WILLIAM MADDREN,
		JAMES L. KORTRIGHT.

Brooklyn, N. Y., Nov. 1, 1895.

STEPHEN EDWARD FULLER, M.D.

BY THOMAS E. ROCHESTER, M.D.

Dr. Stephen Edward Fuller was born in East Haddam, Connecticut, on the eighth day of December, 1836.

He came of a race of physicians; the almost unbroken line extending back to the one who attended at the birth of the first child born of white parents in this country.

His father, Dr. Stephen Hopkins Fuller, was a successful practitioner of medicine in Portland and in Hartford, Conn., at different periods of his life, and acted as an assistant surgeon during the War of 1812.

His mother was a Seymour, who traced her ancestry back to Lady Jane Seymour.

The original Seymour of this family in this country was a large land owner in what is now the city of Hartford, Conn.

He was a Tory at the outbreak of the Revolution as was also his younger son, Henry.

The elder son, Thomas Yonge Seymour, was at this time a student at Yale College, which he left at the first news of fighting. Returning to his home in Hartford, he found himself in opposition to his family. Notwithstanding this, he raised a company of dragoons, of which he was made captain, and did good service during the war. Among other duties he was detailed to escort Gen. Burgoyne, after his surrender, from Saratoga to Boston.

He is a conspicuous figure in the large painting of the Surrender of Burgoyne, which hangs in the rotunda of the Capitol at Washington, being the only officer mounted.

Returning at the close of the war to his home he became afterwards the first Mayor of Hartford. It was more especially to the services of this man, his grandfather, that Dr. Fuller referred with pride. He was too thoroughly American to go beyond the gallant soldier of the Revolution.

The crest which he wore, cut into a ring, was one worn and used by the Seymours of this family.

A cousin of Dr. Fuller's was Thomas H. Seymour, who was major, and subsequently colonel during the war with Mexico. His promotion from the lower to the higher rank was due to gallantry at the storming of the castle of Chapultepec, near the City of Mexico.

This gentleman was elected Governor of Connecticut for six consecutive terms, and afterwards held the appointment of Minister to Russia.

He was a thorough-going Democrat, and a leading candidate for the Vice Presidential nomination in the convention which nominated candidates in opposition to Abraham Lincoln, when the latter was a candidate the second time.

From early childhood Dr. Fuller was bent upon becoming a physician, and at the age of twelve years he commenced the study of Latin and Greek, as a foundation for his medical studies, walking three miles to and from his recitations, three times a week, his instructor being the Rev. Dr. Emory of Trinity Church, Portland.

At fifteen he entered Trinity College, in Hartford, in advance of his class in Latin and Greek.

In 1854 he began the study of medicine with Dr. Preston of Hartford, and spent one term in the medical department of Yale College.

He then entered the College of Physicians and Surgeons in New York City, from which he was graduated in the class of 1858.

From that time until he entered the army he practiced his profession in Hartford, being at one time assistant to Dr. Hastings of that city.

On June 11, 1862, he entered the army as a Contract Surgeon and served as such until June 4, 1863.

His influential friends and relatives being politically opposed to him in their views, would be of no service to him, and so, without influence or assistance of any kind, he applied for service. He was assigned to duty in the West, and his first active service was at the battle of Pittsburgh Landing.

Arriving with the reinforcements under Gen. Buell on the second day of the battle, in the early morning, he looked for the first time upon a scene too horrible for description, and which, to a young man, was almost overpowering. However, that was his place, his duty was to care for the wounded, and he was soon absorbed in his work.

Soon after Dr. Fuller applied for examination to the Army Medical Examining Board in Washington, and passed among the first of the number examined.

He was commissioned Assistant Surgeon of U. S. Volunteers June 4, 1863, and in consequence of the excellence of his record

before the examiners, was, without further examination, commissioned full Surgeon of Volunteers some ten days later ; this recognition being granted to but two others who underwent the same examination. He assisted in organizing what was afterwards known as the Wolf Street Hospital in Alexandria, Va., of which he was placed in charge.

The following is an extract from the record of Dr. Fuller's military services in the Surgeon-General's office in Washington, D.C. : " Dr. Fuller was in charge of No. 21, General Hospital, Nashville, Tenn., from November to December, 1863. Capacity of hospital during this period, 210 beds ; in charge of No. 14, General Hospital, from June 13, 1864, to May, 1865. Capacity of Hospital in June, 1864, 400 beds ; from July to October, 1864, 750 beds ; November, 1864, to May, 1865, 950 beds ; and in charge of Wilson General Hospital, same place, from May, 1865, to October, 1865. Capacity of hospital during this period 610 beds. At one time there were also 800 smallpox patients under his charge.

While serving in these various hospitals the Doctor received many tokens of love and esteem from the soldiers under his charge, among which were a valuable case of surgical instruments and a handsome gold watch.

In October, 1865, Surgeon Fuller was honorably mustered out of the service, and for " faithful and meritorious service " was brevetted Lieutenant Colonel by President Johnson.

Soon afterward he entered upon the practice of his profession in the city of Brooklyn, N. Y., where he remained until his death.

During the interval between his graduation in 1858 and his entrance into the army, he was married to Miss Julia Comstock, of Hartford, Conn., youngest daughter of Doctor John. L. Comstock, a writer well known at that day upon chemistry, botany and kindred subjects.

Resulting from that marriage two sons survive him, Dr. Philip Hastings Fuller, of Newtane, Vermont, and William Chenevaro Fuller, of Providence, R. I.

In 1872 he married Jeanie M. Keyes, of Vermont, who, with a son, Seymour Keyes, and a daughter, Jeanie Marguerite, resides in Brooklyn.

Dr. Fuller's nature was intense. Strong in his likes and dislikes, and intolerant of pretenders and hypocrites, he was at the same time sympathetic and generous, giving much of his time

and strength to the relief of the poor without thought of compensation.

His patients speak of his tenderness and quick sympathy for them in their distress.

His leading characteristics were intensity of thought and purpose, quickness of perception, precision, care of detail in business, and system in whatever he did.

He possessed an indomitable will and great energy, which manifested itself in a marked degree even when he was weakened by disease.

He was a modest man, and though often urged to participate in some public discussion, or to write, he was very loth to do either, often saying he would leave those things to the boys who liked to hear their own voices or see their names in print. Such articles as appeared from time to time of his writing were, however, always well received.

As a surgeon and also as a diagnostician he was very skilful.

Although a member of several societies, he was rarely away, except on business, from his home, for which he had a great fondness.

In his profession he was always handicapped by sick headaches, which were inherited, and from which he suffered all his life.

He also suffered from diseases contracted during his service in the army, and which, being aggravated by la grippe, from which he suffered severely twice, resulted in his death.

Although suffering from weakness and nervousness, caused by the disease which caused his death, he felt unwilling to relinquish his practice, often saying that he wished to die when he could no longer attend his patients. In this his wish was realized, as he saw patients to within four days of his death.

So opposed was he to being an invalid that he was in bed only one day before the end came.

On the morning of May 2d, 1895, at half-past eleven o'clock, he passed peacefully away, surrounded by the members of his family.

He leaves a large circle of sorrowing friends from among his patients, who were devotedly attached to him, and from among many who knew him as a friend only.

He belonged to the following organizations: Military Order of the Loyal Legion, New York Commandery; U. S. Grant Post, No. 327, G. A. R.; Sons of the American Revolution; New

York Academy of Medicine ; Practitioner's Club of Brooklyn ; Kings County Medical Society ; Kings County Medical Association, and the Masonic Order. At different times he had been connected with the Brooklyn, Oxford, and Marine and Field Clubs, but for a year or two before his death ill health had prevented his taking any active interest in them.

TWENTY-FIFTH ANNIVERSARY OF THE ORGANIZATION OF THE BROOKLYN PATHOLOGICAL SOCIETY.

As briefly noticed in the last number of the *JOURNAL*, the Brooklyn Pathological Society celebrated its twenty-fifth birthday on November 18th by a dinner at the Montauk Club, which was in every way a decided success, and showed that the Pathological Society had, during the quarter of a century of its existence, at least cultivated good fellowship and professional "esprit du corps ;" for there were gathered at its hospitable and well-spread board the representatives of the medical profession of Brooklyn to the number of 110, including some of those who are not usually seen at the meetings of the medical societies.

The committee of arrangements were Drs. J. P. Warbasse, J. H. Hobart Burge (one of the founders of the society), Andrew Otterson, J. M. Van Cott, Jr., F. J. Shoop, H. P. de Forest, and Archibald Murray.

They had not only provided a satisfactory feast, but a menu card, which showed that even pathology had its artistic side as well as being sometimes poetic. The decorations on the cover of the card, though representing various cells and stroma, as well as a few microbes, did not at all disturb the appetites of their guests, and it was late before Dr. Francis H. Stuart could call them to the post-prandial feast, which he did by calling on Dr. Truman J. Backus, of the Packer Institute, to respond to the toast of "Man and the Universe," which gave the genial orator free scope to make a very witty talk, closing with Dr. Johnson's sage expression : "In the universe there's nothing great but man, and in man there's nothing great but mind."

The chairman next called upon Dr. J. H. Hunt for a retrospect of the history of pathology and the Brooklyn Pathological Society.

Dr. Hunt followed the usual order of business at the regular meetings of the society, by presenting a "specimen," which in this case was the bronze medal struck in Paris on a similar oc-

casion to this, in 1828, and bearing the portrait of Johan Baptista Morgagni, whose book on the causes and seats of diseases, as exemplified by practical anatomy, published more than a hundred years ago, laid the foundation for the study of Pathological Anatomy.

The obverse bore a representation of Minerva presenting a scalpel to the Genius of Esculapius, with which to make the autopsy on the cadaver which lay on the table, with heart and other thoracic organs exposed.*

He spoke as follows : You feel that you have entirely cut loose from the precedent and authority of the old masters. You care not what Aristotle taught or Galen wrote. When you turn the leaves of the tall folios in which are recorded their knowledge and theories, and you find no descriptions of *ærobic microbes*, and learn that Hippocrates was unacquainted with the benignant micrococcus tetragenous, and learn that Leeuwenhoeck had never tried to stain a diplococcus or a nerve-cell, you pathologists of this fungoid age of bugs thank your lucky stars that you live in this latter part of the nineteenth century : that the sun of medical progress has so nearly reached high noon.

So, too, thought the whole medical profession for more than 160 years. Galen had taught all there was to know. Beyond him there was nothing to learn.

Gentlemen, there is yet a good stroma of connective tissue carrying not only the giant-cells of the past, but the microbes of ancient pathology.

I would like to tell you how the giant-cells called Celsus, Avicenna, Bartholinus, Bonetus, Malpighi, Leeuwenhoeck, Harvey and others, dug deep the soil in which Hunter, Bichat, Virchow, Koch, Pasteur, Sternberg, Wilson and Van Cott have cultivated the science of modern pathology.

Let me tell you, however, that the old is not all ancient, nor the modern always new. Though we have records of medical knowledge in Egypt as early as the sixteenth century, B. C., our present knowledge of our history begins with the medical school conducted by Chiron, the wisest of the centaurs, on cloud-capped Olympus, where Æsculapius was trained in the healing art. The study of pathologic anatomy begins with the seventeenth century, for it was then that Leeuwenhoeck, by means of his magnifying glasses, introduced us to a new world, which has grown in the past quarter century to majestic proportions. In 1683 he

*A picture of this medal will be found in this number of the Journal.

discovered the first bacteria and furnished Malpighi with the means by which he discovered the blood corpuscles, and first saw the current bearing them through the capillaries of the mesentery of a frog, thus completing the work which Harvey had been compelled to leave unfinished by reason of his want of the microscope.

I wish I could tell you more of Malpighi, whose portrait is the second of the triumvirate who form the seal and badge of our Brooklyn Pathological Society, but in the Malpighian corpuscles and the rete Malpighi we are reminded of his constant presence with us.

About 1670, Welsh brought out a compendium of pathological anatomy, and thus by priority may be regarded as the father of the system, though his work, as well as that of Bartholinus, who, in 1674, brought out his *Councils in Practical Anatomy*, were followed in five years by the great *Sepulchretum* of Bonetus (vid. *BROOKLYN MEDICAL JOURNAL*, December, 1895), which in reality is the monument marking the beginning of the new science.

It was more than eighty years before the celebrated Morgagni published in Venice his famous work on the "Seats and Causes of Disease as Revealed by Anatomy," the reputation of which for accurate description and variety of observation has been handed down undiminished to the present day.

It has indeed been justly styled one of the most precious monuments of our art, and its dissertations, couched in the form of letters, abound in the most profound and judicious criticism, united with the most careful observations of nature. This work substituted in pathology a deranged texture of organs as a cause of disease, in the place of the gratuitous theory of a radical heat and a radical moisture, so humorously satirized by Le Sage in his sketch of Dr. Sangrado.

Another jump of over a century brings us to Mathew Baillie, pupil and successor of John and William Hunter, who were not only great as physician and surgeon respectively, but were patient investigators of pathological and normal anatomy. You remember how John Hunter used to leave his laboratory for his daily round, saying as he pulled on his coat: "I must go out and earn that cursed guinea, for I shall need it to-morrow."

They accumulated great collections of normal and pathological material, that of John being purchased by the British government for £15,000 and now forms the chief part of the Hunterian Museum in London. Baillie not only had the benefit of their

instructions, but also of their collections. Of these he made good use in his "*Morbid Anatomy*," which was first published in 1793. In it he gave us those beautiful copper plates of specimens in his uncles' collections, with descriptions which, for correctness and accuracy, set a high standard for future writers on the subject.

He taught that the chief benefits of pathological anatomy were to be found in the fact that it opposed theories and taught us to perfect diagnosis and to hold separate the individual phenomena.

This work of Mathew Baillie's is one of special interest to me (if you will pardon the personal retrospection), in that it was the first book which made me acquainted with the fact that our modern authors do not tell us all that has been done, even in so young a science as pathology.

It is more than twenty years since I, a youthful doctor, brought the result of one of my first autopsies to a meeting of this society, which was then holding its sessions in the old Eye and Ear Hospital on Washington street, a spot now occupied by the Brooklyn Bridge.

Some of you remember those meetings: everyone except the newcomer knew every one else; in fact, it was a sort of mutual admiration circle, founded on the mutual love for pathology and medicine, where we enjoyed not only each other's society, but the feast which had brought us together. What feasts they were! The pathological hash which so artistically decorates the cover of our menu card is but a sample. Each man (we had no ladies then) contributed his share, just as they do in the old-fashioned country surprise party. There were lungs with nice creamy cavities, good fat livers and spleens which had grown so enormously that they had crowded their owners out of existence, bones with ancient sequestra, and kidneys, too. Those who had no other dish brought brains. We all sat around the room, making a circle which was large or small, according to the attendance. At that time there was but one officer, a sort of Poo Bah, who was designated as secretary and treasurer. The chairman was elected at each meeting. At that meeting Dr. Giberson, one of the founders of the society, and in whose office the first meeting was held, was secretary, and Dr. Frank Rockwell presided: two of the noble characters who have honored our local circle. Dr. Stiles had died of overwork before I came among you. There were present, besides, Drs. Segur, Bunker, Wunderlich,

Rushmore, Sizer, Burge, Otterson, Fearn, and probably you, Mr. President, as well as Prof. Wight, whom I recall, with others, as pretty constant attendants at those meetings.

To go back to Dr. Baillie, the specimen which I brought to that evening's repast was a pleura which had changed from a membrane sac to a hard stony case, some portions of which showed under the microscope a complete Haversian system. I learned from the pathologists present that such a specimen was not only new to them, but that true ossification of the pleura had been denied by the accepted authorities. I returned to my library to learn if my specimen was unique, and there became a deeper student of pathology than I might otherwise have been. It was not—I found its counterpart in Baillie, whose book appeared 102 years ago (1793).

About the time Baillie was preparing his work in London, Bichat was laying the foundation for our modern pathology at the Hotel Dieu in Paris.

One clause from his work will perhaps give the key-note, not only to his teachings, but the reason for the existence of our specialty. "You may observe diseases of the heart, lungs, abdominal viscera, etc., night and morning for twenty years, yet the whole furnishes merely a jumble of phenomena, which unite in nothing complete. But if you open only a few bodies, you will see the obscurity speedily give way, a result never accomplished by simple observation, if we do not know the seat of the disease." Bichat was the founder of our tissue pathology, that is : he established the tendency of similar anatomical tissues to similar forms of disease.

He was followed by a line of men who made the French school paramount in pathological matters, for the first half of the present century at least, until Rokitansky and Scoda appeared in Vienna and developed there the great rival to the Parisians. Rokitansky did not in any main point alter the pathology of the French school, but rather grafted it on the Teutonic mind, and the differences were mainly those caused by the differences between the races.

Succeeding this Franco-Austrian school of Bichat and Rokitansky, came Rudolph Virchow's modern cellular vitalism.

It was as early as 1677 when Sir Robert Hooke, having discovered the cells of plants, and at a later period Schwann and Schleiden, who had demonstrated the animal cells, and Robert

Brown the cell nucleus, paved the way for Virchow to develop the theory that the cell was the proper ultimate vital element.

The pathology founded on this histology was the received science when this society was born in Dr. Giberson's office, on the night of March 3d, 1870, or, rather, I might say that the accomplishment began, for the gentlemen who met were all members of the Medical Society of the County of Kings, including its President, who thought it best to invite the co-operation of the parent society. Accordingly, at the next meeting of the county society, Dr. Stiles, the President, invited all members interested in the study of pathological anatomy to meet at the rooms of the Board of Health, county court house, on the evening of March 22d, 1870. At that meeting there were eleven present, who organized as a section of the Medical Society of the County of Kings, by the adoption of suitable by-laws, and took for their pattern the New York Pathological Society, an older organization, with the exception of requiring members to belong to the County Society, and that a presiding officer should be elected at each meeting, the secretary, treasurer and editor being the only permanent officers. For the first few years Dr. Charles H. Giberson held all the offices, under the title of secretary and treasurer. Candidates for membership were required to present a morbid specimen, with a written history of the case.

The meetings were first held at a member's house, but soon moved to the Eye and Ear Hospital, 208 Washington street, where they met on the first and third Monday evenings of each month.

The green book of 1871-2 gives a list of twenty members, as follows: J. H. Hobart Burge, John Byrne, Frederick H. Colton, Charles Corey, J. L. H. Elmendorf, Herbert Fearn, Lewis D. Mason, Arthur Mathewson, Homer G. Newton, J. S. Prout, Joseph C. Snively, Oscar C. Sparrow, R. Cresson Stiles, William Henry Thayer, Charles W. Vrooman, Frederick W. Wunderlich, Richard Wyckoff, Charles H. Giberson.

This condition of affairs continued much the same, with Dr. Giberson as secretary and treasurer, and Drs. Rushmore, Mathewson and Elmendorf as the micro committee, until 1876, when the by-laws were modified to provide for a president, vice-president and curator, and the green book for 1876-7 tells us that Charles H. Giberson was president, F. W. Rockwell vice-president, N. B. Sizer secretary and treasurer, T. R. French curator

and A. Mathewson editor. The society had grown to thirty-seven members.

The following two years Dr. Frank W. Rockwell was our presiding officer, and he was followed by Dr. Arthur Mathewson, who is still with us. About this time our designation was changed from the cumbrous one of the Pathological Section of the Medical Society of the County of Kings to the more euphonious title of the Brooklyn Pathological Society, without, however, changing our relations to the parent society.

Then came Dr. William Wallace, who presided over us for two years, 1880-2, who was followed by Dr. John Freeman, who, as well as his successor, Dr. Benjamin F. Westbrook, have gone from us. What a sextette these names of the first presiding officers of our society make—Giberson, Rockwell, Mathewson, Wallace, Freeman and Westbrook. Let us drink in silent toast to the memories of the four who have gone, and hope that Drs. Mathewson and Wallace may be spared to celebrate many anniversaries with us.

In 1884 the by-laws were modified so that worthy physicians not members of the County Society might become members.

From 1887 till now is familiar history to all present. Your presiding officers during that period are all still with us, and men as young as the modern parasitic germ theory of pathology, which is not yet a retrospect.

It seems from the green book that there was a Brooklyn Pathological Society in 1874-5, in addition to ours. We find that it was organized January 19, 1874, with Dr. Joseph E. Clark as president and Dr. Ed. G. Colm as secretary.

It contained at the time twelve members. It is not alluded to afterwards, so I suspect that its existence was only until the members had learned that there was another society where their material would be welcomed.

Rev. Albert S. Lyman responded to the toast of "The Clergy," and said that the profession he represented was no longer at odds with the one he addressed. Both were founded on love of truth and service to men. The tremendous realism of this common work gives a fellowship, square, manly, and true. The great professions will be affiliated in the coming twentieth century, whose challenge is already sounding in our ears.

Dr. George McNaughton, president of the society from which the Pathological Society sprang, was called upon to speak on the "Professional Brotherhood," and, among other things, said :

I am not here to-night as an individual, but because I happen at this time to be president of the Medical Society of the County of Kings, a position that no one else would accept last year. As an individual, I would prefer being elsewhere, particularly for the next few minutes, then it would be pleasant to return and listen to the splendid entertainment which will come after I have finished; but in the other capacity it is my duty to be present on this occasion, and, in behalf of the society which I represent, I desire to congratulate the Brooklyn Pathological Society on its prosperity, and thank its committee for the courtesy which has been extended to the Medical Society of the County of Kings.

According to the programme, I am expected to say something of "Professional Brotherhood."

In preface, I shall attempt to tell a story which in a small way illustrates the brotherhood which exists between physicians. A few years ago, on a passenger car on the Pennsylvania Railroad, each seat was occupied by two persons, save one, and in this seat was a man who had placed his luggage in the other half of his seat with the evident intention of making people believe that the occupant had stepped out for a moment. Presently a gentleman entered the car, discovered the one seat not occupied by a passenger, and politely asked if this seat were taken. The reply was that it seemed to be. One word led to another until finally the argument became heated, much to the amusement of the passengers. At this juncture, the conductor appeared and addressed the man who was standing as doctor. The seated man looked somewhat surprised and abashed, and at once asked his opponent if he were a physician, and was answered in the affirmative. The selfish individual apologized, said that he also was a physician, and begged the gentleman to be seated. They began to converse, and it is fair to believe that they very pleasantly swapped—truths until they reached their destinations. This fairly represents the selfishness of men, or some men, and at the same time the fellowship found among physicians.

A professional brotherhood may be practical as well as sentimental. During the past two years I have been consulted as many as fifteen times by physicians who have received letters from lawyers, making claims of damages for unprofessional and unskillful treatment of their clients, and in each case I believe that the claim was an unjust one. Indeed, such claims are of so frequent occurrence that some physicians do not hold property in their own name, a manifestly wrong condition of affairs. Can

we not organize a society for mutual protection, pay a stipulated sum each year, secure competent counsel, and defend these cases, if brought into court? Then these annoyances would be of less frequent occurrence. Judgments, fortunately, are rarely given against physicians on these accusations, but to defend them very often requires more money than the accused can afford, loss of time for himself and friends, and always, more or less, a depreciated professional reputation.

The Medical Society of the County of Kings has been, for the past year, soliciting subscriptions for the purpose of erecting a new building. There is now pledged nearly \$15,000; of that amount between \$5,000 and \$6,000 has been paid—all of this from the medical profession—a list of which we are justly proud, because in many instances the incomes of physicians have been from twenty to fifty per cent. less than in former years, this being due to the stringent times. In some individual cases, in order to pay the subscribed amount, the donor has found it necessary to lay aside a certain amount each month, and often at a considerable personal sacrifice. This is mentioned to show the determined spirit that backs the enterprise. With that determination, the project is bound to succeed.

Quite a number of the medical profession in this city have not encouraged us in our efforts by subscribing to the Building Fund. This is due, in some instances, to the fact that they are not members of our society. To these I wish to state that the building which is contemplated is mostly for library purposes—to properly house the only public medical library and reading room in this city, and incidentally for a meeting place for the various medical organizations.

There are now over 10,000 bound volumes in cramped quarters; indeed some are in storage for want of space. Besides, there are 250 medical journals on file in the reading rooms. If, for one or another reason, we cannot see our way clear to become members of the Medical Society of the County of Kings, we can at least join in a professional brotherhood and give our earnest support to the library. Therefore, let us forget associations, societies and meeting organizations of all kinds, and give a generous, wholesome brotherhood support to our only Public Medical Library.

The Chairman then feelingly alluded to the fact that when the Pathological Society was formed the medical profession in the state and county were united in one organization, but that a dif-

ference in society politics had caused a secession of a part, who had organized a rival association, and he hoped that the time would soon come when the profession would be again united in one medical society. He then called on Dr. Julius C. Bierwirth, president of the Kings County Association, who discoursed on the dangers surrounding the work of the pathologist, from ptomane and disease inoculation, and praised the great discoverers of our day, and believed that serum therapy would solve the problem of all filth diseases.

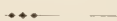
He was followed by Counsellor William B. Davenport, who made a half humorous, half earnest apology for the law, holding that in spite of many errors there were influences at work that tended upward.

Dr. Joseph H. Raymond, editor in chief of the *BROOKLYN MEDICAL JOURNAL*, responded to the toast of "Medical Journalism," and after speaking of the influence of the press, spoke feelingly of the great mortality among the physicians of Brooklyn during the past year, saying that he had just prepared the index to the *JOURNAL* for 1895, and found that the word "Obituary" was followed by the names of no less than twenty-six physicians, most of whom had been members of the Medical Society of the County of Kings.

He was followed by Dr. Lewis S. Pilcher, editor of the *Annals of Surgery*, on "Surgical Journalism," who spoke of the origin of the *Annals of Surgery* in the old Brooklyn Anatomical and Surgical Society, which published the "*Annals of the Anatomical and Surgical Society*," and when the society and its journal died, other publishers took up the work and brought out the present journal.

The hour was late when the Chairman called on Prof. J. M. Van Cott, Jr., to give the future of pathology, which he did so briefly that it made all wish that he had more time to give the subject.

The morning hours were advancing when the pathologists and their friends dispersed, with the unanimous feeling of "Long live the Brooklyn Pathological Society."



Dr. Reilly, *British Medical Journal*, has cured ring-worm with solution of common salt.

MISCELLANEOUS.

TENDON GRAFTING; A NEW OPERATION FOR DEFORMITIES FOLLOWING INFANTILE PARALYSIS, WITH REPORT OF A SUCCESSFUL CASE.

BY SAMUEL E. MILLIKEN, M.D.,

New York.

Surgeon-in-Chief of the New York Infirmary for Crippled Children; Surgeon to the Infants' and Children's Hospitals.

At the meeting of the New York State Medical Association, October 15, 1895 (*Medical Record*, October 26), Dr. Milliken presented a boy 11 years of age, upon whom twenty months before he had successfully grafted part of the extensor tendon of the great toe into the tendon of the tibialis anticus muscle, the latter having been paralyzed since the child was 18 months old.

The case which was presented showed the advantages of only taking part of the tendon of a healthy muscle, which was made to carry on the function of its paralyzed associate without in any interfering with its own work.

The brace which had been worn since 2 years of age was left off, the patient walked without a limp, the talipes valgus was entirely corrected, and the boy had become quite an expert on roller skates.

Dr. Milliken predicts a great field for tendon grafting in these otherwise hopeless cases of infantile paralysis, who have heretofore been doomed to the wearing of braces all their lives.

640 Madison Avenue, New York.



ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, amounting to about one hundred and eighty dollars, will be made on July 14, 1896.

Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by the secretary of the college on or before May 1, 1896.

The Alvarenga prize for 1895 has been awarded to Dr. Guy Hinsdale, of Philadelphia, for his essay entitled "Syringomyelia."

A REMEDY FOR BLACK EYE.

There is nothing to compare with the tincture or strong infusion of capsicum annuum mixed with an equal bulk of mucilage or gum arabic, and with the addition of a few drops of glycerine. This should be painted all over the bruised surface with a camel's hair pencil and allowed to dry on, a second or third coating being applied as soon as the first is dry. If done as soon as the injury is inflicted, this treatment will invariably prevent blackening of the bruised tissue. The same remedy has no equal in rheumatic sore or stiff neck.—Medical Progress.

...

Prof. Boeck, of Christiania, uses for chillblains: Resorcin, ichthyol and tannin, each 30 grains; water 150 grains; painting the affected parts at night. This discolors the skin, so that if the affected part be an exposed one the following may be substituted: Resorcin, 60 grains; gum arabic, 38 grains; water, 115 grains; talcum powder, 15 grains.—Semaine Médicale.

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NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.

DOCTOR'S STORY SERIES.

Bailey & Fairchild Co., of New York, take pleasure in announcing to the medical profession the establishment of the "Doctor's Story Series," to be issued quarterly at \$2.00 a year, 50 cents a number. Each number will consist of a complete work of fiction by medical authors. Only such works as are of established value will be reproduced in this popular form. King's "Stories of a Country Doctor" will be issued January, 1896, to be followed in March by Dr. Phillips' wonderful novel "Miskel," and later by a new novel now in preparation by the same author.

...

NEW YORK STATE REFORMATORY—NINETEENTH
YEAR BOOK.

The medical part of this institution is looked after by Dr. Hamilton D. Wey, of Elmira. When we consider that the population

of the Reformatory is 1,339—of this number twenty-seven were in the hospital October 1893—during the year 171 inmates were admitted to the hospital, of which eleven died, and nineteen remained in the hospital October 1, 1894—the percentage of deaths in this institution is very small, the causes being two from acute disease, one suicide, and eight from chronic diseases, mostly tubercular.

COLORADO SCHOOL OF MEDICINE.

The annual announcement for 1895-96 informs us that in the far West our medical schools are progressive. Heretofore the course in this school has been of three years' duration. Beginning with 1895 the course will be four years of nine months' duration each year.

The graduates of 1895 were eleven, all of Colorado. There were during the session of 1894-95 fifty-two matriculates, not including the graduates.

The school being part of the University of Colorado, its graduates have formed a society of the alumni, with Catherine P. Hayden as President. The medical school has in connection with it a post-graduate course.

It is pleasant to note at this time that among the text-books recommended are Gerster's Aseptic and Antiseptic Surgery, and Garrigues' Gynecology, both former members of the Medical Society of the County of Kings.

BALTIMORE UNIVERSITY SCHOOL OF MEDICINE.

The session of 1895-96 began on October 1st. This school has a graded course of instruction of three years. The matriculates for 1894-95 were sixty-eight, of which twenty-nine graduated. The Alumni Association has J. Calvin Schofield, M.D., for its President. In connection with the medical school the faculty have secured a large building to be used for private patients, and known as the Baltimore University Hospital. Among the text-books appears Dr. Garrigues' Gynecology.

A GUIDE TO THE PRACTICAL EXAMINATION OF THE URINE FOR THE BUSY PHYSICIAN AND STUDENT. By James Tyson, M.D., Professor of Clinical Medicine in the University of Pennsylvania, etc. Ninth edition, revised and corrected, with a colored plate and

wood engravings. Philadelphia: P. Blakiston, Son & Co., 1895. Pp. 276. Price \$1.25.

We note but few changes in this edition of Tyson's well-known manual. That it has reached a ninth edition speaks eloquently of its value to the physician and student.

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS: A MANUAL FOR THE USE OF PHYSICIANS, SURGEONS, AND STUDENTS. By Charles W. Purdy, M.D., Queen's University, Fellow of the Royal College of Physicians and Surgeons, Kingston, etc. Second, revised, edition; with numerous illustrations, including photo-engravings and colored plates. In one crown octavo volume, 360 pages, in extra cloth, \$2.50 net. Philadelphia: The F. A. Davis Co.

It is but a few months since we noticed the appearance of the first edition of this work. In the second we find but few changes. Dr. Purdy's manual is one of the best and most complete that have come to us, and we cordially recommend it.

MATERIA MEDICA AND THERAPEUTICS. A PRACTICAL TREATISE WITH ESPECIAL REFERENCE TO THE CLINICAL APPLICATION OF DRUGS. By John V. Shoemaker, A.M., M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia, etc. Third edition, thoroughly revised. Reset with new type and printed from new electrotype plates. Royal octavo, pages ix., 1108. Extra cloth, \$5.00 net; sheep, \$5.75 net. Philadelphia: The F. A. Davis Co.

The thoroughness with which the third edition of this well-known text-book has been revised and the important additions which have been made to it, have practically made a new book of it. There is no part of medical science in which greater progress is being made, almost daily, it might truthfully be said, than in that which is treated here by Dr. Shoemaker; and it seems necessary, in order that the profession should be kept informed, that frequent editions of such text-books should be issued. The one before us is fully up to date; indeed, so recent a remedy as tannigen and its uses are described in full. In this edition we note also tollysol, tolpyrin, solocol, solacetol, chlorphenol, bromphenol, ethylendiamine, silver phosphate, tropacocaine, etc., etc. The treatment of disease by means of animal extracts, secretions or juices, and by immunized serum, or antitoxins, is also full discussed. The volume is admirably adapted to the purpose for which it was written—to satisfy the wants of the physician and the student.

SYSTEM OF SURGERY. Edited by Frederick S. Dennis, M.D., Professor of Principles and Practice of Surgery, Bellevue Hospital

Medical College, etc., etc. Assisted by John S. Billings, M.D., LL.D., etc.; Deputy Surgeon-General U. S. A. Vol. II. Profusely illustrated. Philadelphia: Lea Brothers & Co., 1895. Pp. 926.

In reviewing Vol. I. of this system, we had nothing to say that was not commendatory in every particular, and so far as we have been able to discover in our study of this volume, the matter and methods are fully equal to those of the first.

The opening article is by Henry B. Wharton, M.D., Demonstrator of Surgery in the University of Pennsylvania, on Minor Surgery, a subject which he has already treated elsewhere, and the capacity to discuss which he has so well demonstrated. In the article he deals with bandaging, materials used in surgical dressings, aspiration, treatment of hemorrhage, cystoscopy, etc.

Plastic Surgery is discussed by George R. Fowler, M.D., Surgeon to St. Mary's and the Methodist Episcopal Hospital, Brooklyn, and Examiner in Surgery to the N. Y. State Medical Examining Board. Since the publication of this volume, Dr. Fowler has been appointed Professor of Surgery in the N. Y. Polyclinic. The amount of material which the writer has succeeded in condensing into fifty-four pages is surprisingly large. All the best and most recent methods are clearly and concisely described and fully illustrated.

Military Surgery and the Care of the Wounded on the Battle-field is the title of the article by William H. Forwood, M.D., Professor of Surgery in the Army Medical School, etc. This is a short, but admirably written article.

Nicholas Senn, M.D., LL.D., Professor of the Practice of Surgery in Rush Medical College, etc., is the author of the article on Diseases of the Bones; Virgil P. Gibney, M.D., Surgeon-in-Chief to the Hospital for Ruptured and Crippled, etc., writes on Orthopædic Surgery; Lewis A. Stimpson, M.D., Professor of Surgery in the University of the City of New York, on Aneurism; Frederic S. Dennis, M.D., Professor of the Principles and Practice of Surgery in Bellevue Hospital Medical College, on Surgery of the Arteries and Veins (exclusive of aneurism); Frederic H. Gerrish, M.D., Consulting Surgeon Maine General Hospital, on Surgery of the Lymphatic System; Roswell Park, M.D., Professor of Surgery, Medical Department University of Buffalo, etc., on Diseases and Injuries of the Head; W. W. Keen, M.D., LL.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, etc., on Surgery of the Spine; and John B. Roberts, M.D., Professor of the Principles and Practice of Surgery, Woman's Medical College, Philadelphia, on Surgery of the Nerves.

We very much doubt whether any volume has ever appeared in the English language which better represents the height to which American Surgery has attained. The authors are types of American surgeons, and they deal with the subjects allotted to them in a masterly manner. The illustrations, 515 in number, are admirably adapted to the purpose for which they were designed, and it is unnecessary to say that the publishers have left nothing undone to make the book a model.

THE MEDICAL DIRECTORY OF THE CITY OF NEW YORK. Published under the auspices of the Medical Society of the County of

New York. Price \$1.00. New York: Press of Stettiner, Lambert & Co. Pp. 396.

The title of this book is exceedingly misleading, for it is not only a directory of the City of New York, but of Brooklyn and of the states of New York, New Jersey, and Connecticut. It contains, besides, all the information concerning hospitals, dispensaries, medical colleges, etc., etc., which a physician is constantly in need of. It is a veritable multum in parvo.

HOW TO DISINFECT. A Guide to practical disinfection in everyday life and during cases of infectious illness. By C. T. Kingzett, F.I.C., F.C.S., Past Vice-President, Society of Public Analysts, etc. The American and Continental "Sanitas" Co., Ltd.: New York and London. Pp. 96. Price 10 cents.

This little pamphlet describes in detail the methods of using "Sanitas" and its various preparations.

THE MEDICAL RECORD VISITING LIST AND PHYSICIAN'S DIARY FOR 1896. New Revised Edition. With Calendar, Tables of Doses, Tables of Equivalents, Directions for Emergencies, Antisepsis, Disinfection, Special Memoranda, Cash Account, etc., etc., 30 and 60 patients per week, bound in black or red morocco leather with flap, \$1.25 and \$1.50. Circular on application. William Wood & Co., Publishers, New York.

This Visiting List is one of the oldest in the market, and its continued popularity shows conclusively the esteem which its convenient arrangement, good materials, and attractive makeup merit. The thirty closely printed pages which precede the Visiting List proper have just been revised and brought completely up to date, and the Tables of Equivalents, Posological Table, Tables of Formulæ for various purposes, of Poisons and their Antidotes, together with many other memoranda on subjects of daily interest to physicians, are most complete. The paper is fine, and the arrangement for recording visits and memoranda and cash account is excellent. The binding of the Medical Record Visiting List is of the best morocco leather, soft and flexible and extremely durable.

As usual, the Medical Record Visiting List is published in two sizes, for thirty and sixty patients per week, and either dated for 1896 or without dates, so that it may be used indefinitely.

INTERNATIONAL MEDICAL ANNUAL.

E. B. Treat, Publisher, New York, has in press for early publication the 1896 or fourteenth edition of this well-known Annual. Since the first issue of this one volume reference work, each year has witnessed marked improvements; and the prospectus of the forthcoming volume gives promise that it will surpass any of its predecessors. It will be the conjoint authorship of forty distinguished specialists, selected from the most eminent Physicians and Surgeons of America, England and the Continent. It will contain reports of the progress of Medical Science at home and abroad, together with a large number of original articles and reviews on subjects with which the several

authors are especially associated. In short, the design of the book is, while not neglecting the specialist, to bring the general practitioner into direct communication with those who are advancing the science of medicine, so he may be furnished with all that is worthy of preservation, as reliable aids in his daily work. Illustrations in black and colors will be consistently used wherever helpful in elucidating the text. The price is \$2.75.

MANUAL OF CHILD BED NURSING. By Charles Jewett, A.M., M.D., Sc.D., Professor of Obstetrics and Diseases of Children at the Long Island College Hospital. Fourth edition, revised and enlarged. New York: Bailey & Fairchild Co., 1895. Pp. 60. Price 50 cents.

Dr. Jewett has done a great service to the doctor, the nurse and the patient in writing this book, and the publishers have done a no less important service in presenting it in such form that there is no reason why every physician, nurse and mother should not be provided with a copy. Dr. Jewett is especially fortunate in possessing the power of putting the results of his vast experience in epigrammatic language; and we doubt if there is any medical writer who uses fewer unnecessary words than he. He has no use for padding, and as a consequence we have in these sixty pages as much material as would by many authors form the basis of a volume of many hundred pages, and still contain no more actual instruction.

The publishers announce that the price of one dozen copies is but \$5.00 and the suggestion that physicians supply expectant mothers with copies is an excellent one, and one which will save much of the physician's time in giving directions and advice.

THE PRINCIPLES AND PRACTICE OF MEDICINE. Designed for the use of practitioners and students of Medicine. By William Osler, M.D., F.R.C.P., London, etc. Second edition. New York: D. Appleton & Co., 1895. Pp. 1143. Price \$5.50.

In this edition we see many changes, all of which have been made with a view to give its readers the benefit of the latest information touching the diseases discussed. Osler's Practice has attained a leading position among the text-books and well deserves it.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By leading authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In twenty volumes. Volume IV. Diseases of the Vascular System and Thyroid Gland. New York: William Wood & Co., 1895. Pp. 841.

The fourth volume contains but four articles, but the subjects therein treated are very important ones. The first is on Diseases of the Heart and Pericardium, and is written by James T. Whittaker, M.D., LL.D., of Cincinnati, Professor of the Theory and Practice of Medicine and of Clinical Medicine in the Medical College of Ohio. The thoroughness with which the subject

is treated is best shown by the statement that 450 pages are devoted to it, the diseases of the heart taking up nearly four hundred of them.

The second article is on Diseases of the Blood-Vessels, by Arthur Ernest Salmon, M.D., F.R.C.P., London, Physician to, and Lecturer on Clinical Medicine at, the London Hospital.

Bertrand Dawson, M.D., M.R.C.P., London, Medical Registrar, London Hospital, writes a short article on Diseases of the Lymphatic Vessels.

The fourth and last is on Diseases of the Thyroid Gland. It is from the pen of George R. Murray, M.B., M.R.C.P., etc., of Newcastle-on-Tyne. In the article Myxœdema is most fully and ably treated. Naturally, as its author Dr. Murray describes most fully the thyroid-gland treatment, which has been such a boon to sufferers from Myxœdema and Cretinism as well. This account of the disease and its treatment is the best we have seen, if, indeed, it be not the only one which can claim the discoverer of the method as its parent, if in that statement journal articles are not included.

As a whole, although the number of articles is small, the volume is one of the most valuable as yet issued.

PRACTICAL DIETETICS, WITH SPECIAL REFERENCE TO DIET IN DISEASE.

By W. Gilman Thompson, M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine, in the University of the City of New York, etc. New York: D. Appleton & Co., 1895. Pp. 802.

The opening sentence of the Introduction to this book is a statement which we hope is not entirely true; but if it is, then the sooner that the authorities of medical colleges change the present condition of things so that the same statement cannot be made in the future, the better will it be for the reputation of the profession and for the sick who look to its members for relief. The statement to which we refer is this: "The subject of the dietetic treatment of disease has not received the attention in medical literature which it deserved, and it is to be regretted that in the curriculum of medical colleges it is either wholly neglected or is disposed of in one or two brief lectures at the end of a course in general therapeutics." There is no more important part of the treatment of disease than the regulation of the diet; indeed, in many cases, if this were skilfully done it would comprise the whole treatment.

The arrangement of this treatise is such that a busy practitioner can turn in a moment to a dietary which is adapted to any disease he may have under treatment and there find specific directions. We commend the book to every physician, believing that its frequent use will relieve him from a part of his professional work which has in the past been most unsatisfactory, both to himself and to his patient.

PHYSICIANS' VISITING LIST FOR 1896. Published Annually for 45 Years. Lindsay & Blakiston.

This well known Visiting List presents several improvements in the new edition for 1896.

More space has been allowed for writing the names and to the "Memoranda Page;" a column has been added for the "Amount" of the weekly visits and a column for the "Ledger Page."

To do this without increasing the bulk or price, the reading matter and memoranda pages have been rearranged and simplified.

The Lists for 75 patients and 100 patients will also have special memoranda pages as above, and hereafter will come in two volumes only, dated January to June, and July to December. While this makes a book better suited to the pocket, the chief advantage is that it does away with the risk of losing the accounts of a whole year should the book be mislaid.

The publishers announce that before making these changes they have personally consulted a number of physicians who have used the book for many years, and have taken into consideration many suggestions made in letters from all parts of the country.

No Visiting List has been used to a greater extent or for so long a time as this. There is none better suited to the work of the general physician, in keeping easily and systematically his business accounts and memoranda.

A MANUAL OF SYPHILIS AND THE VENEREAL DISEASES. By James Nevins Hyde, A.M., M.D., Professor of Skin and Venereal Diseases, Rush Medical College; Dermatologist to the Presbyterian, Michael Reese, and Augustana Hospitals, and Consulting Physician to the Hospital for Women and Children, Chicago; and Frank H. Montgomery, M.D., Lecturer on Dermatology and Genito-Urinary Diseases, and Chief Assistant to the Clinic for Skin and Venereal Diseases, Rush Medical College; Attending Physician for Skin and Venereal Diseases, St. Elizabeth Hospital, Chicago. With 44 illustrations in the text and 8 full-page plates in colors and tints. Philadelphia: W. B. Saunders, 925 Walnut street, 1895.

This small sexto volume of about 600 pages of text strikes us as being well adapted and of great possible use for those to whom it is commended, namely, the advanced student and general practitioner. It does not pretend to, and obviously can not fill, the place of more extensive and recondite treatises on these subjects.

Its arrangement is good, and the various venereal diseases are given their relative amounts of space and consideration in the order of their importance. The hints and conclusions as to therapy are usually practical and full of saving common sense. We might, for instance, refer as a case in point, to the authors' remarks on the use of irrigations inefficiently or over-zealously applied, of treatment by medicated pencils, and powders in the treatment of gonorrhœa, as some with which we entirely agree.

As to his caustic remarks, however, as to prophylaxis or prevention against that disease, and it may be said other venereal ones, we think he takes too high a ground, believing as we do that the physician is neither advocate nor judge, but that suffering and danger spared the individual, and more especially the race, by almost anything not in itself immoral is always justifiable.

Professor Hyde's reputation as a syphilologist is too well known to make it needful for us to add that what is found in this work is, though brief, well up-to-date and well written.

The illustrations are of a fair order of merit.

S. SHERWELL.

HAND BOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. By Arthur Van Harlingen Ph.B. (Yale), M.D., Emeritus Professor of Dermatology in the Philadelphia Polyclinic; Dermatologist to the Howard Hospital. Third edition, enlarged and revised. With 60 illustrations, several of which are in colors. Philadelphia: P. Blakiston, Son & Co., 1895.

We must congratulate the author on the appearance of this amplification and enlargement of his former editions bearing the same title. In every way this volume, we think, is an improvement upon its predecessors, and we consider it at present as being one of the best works of the kind; and while the text can hardly be said to be scientifically arranged, owing to the alphabetical arrangement of skin lesions treated of, it certainly carries out its purpose well as a manual for the student.

We believe it is wrong to deny the positive usefulness of this class of medical book, as is often done; the busy student can not, and should not, be expected to find time to read exhaustive treatises while in the throes of prospective examinations, etc. Anything that will help him in the lecture room, or outside, to refresh his memory and aid him to follow the course, is acceptable and beneficial. If, when arrived at the practitioner stage, he can carry a fair percentage of the crystallized thought that this and some kindred books contain, he will be fortunate. The differential diagnostic arrangement, always a feature of this book, and a good one, is preserved and extended, we think, in the present edition. The illustrations, as a rule, are good.

S. SHERWELL.

TRANSACTIONS OF THE STATE MEDICAL SOCIETY OF WISCONSIN FOR THE YEAR 1895. Madison, Wis.: Tracy, Gibbs & Co. Pp. 573.

This volume contains more than fifty papers which were read at the forty-ninth annual session of the society. The subjects treated of cover the whole field of medicine and demonstrate that the profession of this state are abreast of the times. Besides these papers, there is printed the constitution and by-laws and a list of about 400 members.

PARVIN'S SCIENCE AND ART OF OBSTETRICS. The Science and Art of Obstetrics. By Theophilus Parvin, M.D., LL.D., Professor of Obstetrics and the Diseases of Women and Children in Jefferson Medical College, Philadelphia. New (3d) edition. In one octavo volume of 677 pages, with 267 engravings and two colored plates. Cloth, \$4.25; leather, \$5.25. Philadelphia: Lea Brothers & Co., Publishers, 1895.

In the progress of the last decade, a generous rivalry has characterized the various departments of medical science, and in none is the advance more apparent than in the art and practice of obstetrics. Three reasons are chiefly responsible for these changes, viz.: a better appreciation on the part of the obstetrician that the phenomena of labor as usually seen is strictly a physiological act; a wiser understanding of the exact conditions which call for interference, including improved therapeutic and surgical methods, and a proper recognition of aseptic management.

The need of a third edition of Prof. Parvin's work is only one of the few tributes to its scientific accuracy and excellence. The salient points which commend this book to the accoucheur and student are its conciseness, its accuracy, and its comprehensiveness. Only a master mind could have formulated such a treatise. Its deductive statements and its practical aphorisms are a tribute to the exhaustive knowledge and clinical resources of the eminent author. The excellence of every department is so well sustained that reference to any particular section seems almost invidious. The reviewer cannot, however, refrain from expressing his satisfaction and delight in that portion of the work covering the physiology of pregnancy, the chapters on ectopic gestation and injury to the maternal soft parts.

Another consideration, not the least, which commends this classical work to the American profession, apart from its intrinsic excellence, rests in the fact that it is a high tribute to the genius of an American author.

WALTER B. CHASE.

THE HISTORY OF PROSTITUTION, ITS EXTENT, CAUSES AND EFFECT THROUGHOUT THE WORLD. By William W. Sanger, M.D., Resident Physician, Blackwell's Island, New York City, etc. With numerous Editorial Notes and an Appendix. New York, The American Medical Press, 1895. Pp. 709.

This volume is a reprint of Dr. Sanger's classic work which was published in 1889, to which has been added an appendix which deals especially with prostitution and syphilis in New York City. The writer of this appendix, who remains incognito, is in favor of some system by which prostitution in New York City and other large cities can be brought under such surveillance and control as will greatly lessen its ghastly consequences, disease and death.

THE PATHOLOGY AND TREATMENT OF VENEREAL DISEASES. By Robert W. Taylor, M.D. With 230 Illustrations and 7 Colored Plates. Lea Brothers & Co., Philadelphia, 1895. Pp. 1002. Price, \$5.50.

The Treatise on Venereal Diseases, by Robt. W. Taylor, is an admirable work and the best text-book on the subject which we have, since it contains references to all the work which has been done up to the present time.

The literature referred to is indicated by foot notes, the author's name is given in connection with all statements of view or experiments, while Dr. Taylor's summing up gives a clear idea of the status of the case.

With regard to etiology of gonorrhœa, while Neisser and Finger hold that all urethral inflammations are caused by the gonococcus, and are specific in character, the author carefully reviews the literature, which is very extensive; and, together with his own personal experience, draws the conclusion that most cases of urethritis are due to the gonococcus of Neisser; but that there are other organisms which exist and which do not grow in the same culture media as the gonococcus, which only grows in blood serum or human blood. In addition to these, other micro-organisms, such as the streptococcus and staphylococcus, can produce suppuration of the urethra, and that all of these non-specific organisms may be introduced in leucorrhœal discharges or

may lie dormant in the urethra and be lighted into activity by the passage of a sound or over-indulgence in beer, etc.

The author believes that the abortion of gonorrhœa, if attempted while the gonococci are still proliferating on the free surface of the mucous membrane, before they have penetrated to the deeper layer, is practicable, and recommends swabbing the first inch of the urethra with a gr. xv to the oz. of nitrate of silver applied through a meatoscope.

The author points out that infectious qualities of a gleet have been overrated, and believes that in the cases of men having shreds and morning drops, who marry and do not infect their wives, the gonococci have disappeared, the secretion has thus lost its contagiousness, but may acquire contagious properties again through an exacerbation of the discharge.

In the chapter on Gonorrhœa in Women, the author speaks of Noeggerath's views on Latent Gonorrhœa in Women, viz., that gonorrhœa in the male persists for life, and that a man having once had gonorrhœa, although apparently cured, will infect his wife or render her sterile after marriage.

The author points out the fallacies of these views and quotes observations of authorities, showing by statistics their incorrectness, and suggests that the inflammation of the uterus, tubes and ovaries in women are due to pyogenic microbes, which have been found to infest the female genital tract; that although their husbands may have gonorrhœa before marriage, the gonococcus is not responsible for their inflammation, nor can it be found in the pus from distended tubes or ovaries.

With regard to the Etiology of Chancroid, the author believes that it is not due to the strepto bacillus of Ducrey, but originates from inoculation with any pus producing micro-organisms and simply an active form of wound infection, analogous to Impetigo and Ecthyma.

The second half of the book is devoted to the consideration of syphilis.

The author declares that while the bacillus of Lustgarten has never been proven to be the *causa morbi* of the disease—there are the strongest reasons from its similarity to certain other affections to consider it as of bacterial origin.

The usual Classification of Ricord, into primary, secondary and tertiary stages, is adapted for convenience, and the effects of syphilis upon each organ, the skin, mucous membranes, bones, muscles, viscera, etc., are considered separately. The description of each syphilide is accompanied by an excellent photograph or lithograph, showing clearly the conditions described.

The author calls attention to the fact that the pustular and suppurative eruptions of syphilis, which were considered as due to a debilitated or cachectic condition of the system are in reality the result of an infection of existing syphilitic lesions by pyogenic microbes, with resulting suppuration.

With regard to the Pigmentary Syphilide, the author holds the view, which he substantiates, that it is not the pigmentation remaining after the disappearance of a macule or papule, but a lesion which occurs independently and which is due to an influence exerted on the trophic nerves of the sympathetic.

Under the discussion of the possibility of the abortion of syphilis after inoculation, the author does not believe in the efficacy of the early excision of the chancre, and considers it to be not only useless but harmful to attempt to abort the disease by beginning mercurial treatment until the early secondary rash has appeared.

HENRY H. MORTON.

CIRCULAR ON DIPHTHERIA.

The Department of Health has sent the following circular to the physicians of Brooklyn :

DEAR DOCTOR :

Recognizing the fact that there is at the present time an unusual prevalence of diphtheria in this city, and realizing that measures instituted to limit its spread must receive the hearty co-operation of the medical profession in order to be effective, the Department of Health desires to call your attention to the following recommendations in the hope that they will meet your approval and enlist your active support.

DIAGNOSIS.

It is urged that in every suspicious case of sore throat, especially when exposure to diphtheria is probable, a culture should be taken for bacterial examination so that a positive diagnosis may be made at the earliest possible date. Genuine cases of diphtheria may then be properly isolated and prevented from exposing others, while those not having the disease may be relieved from the necessity of such isolation and the children residing on the premises may be allowed to return to school.

PREPARATION OF THE SICK ROOM.

Before the patient is isolated it is advised that the carpet and all unnecessary furniture should be removed from the room, or, if it is not practicable to remove the carpet, that it should be covered with crash, which should be kept in place until after proper disinfection of the apartment. In this way the removal of the carpet for subsequent disinfection may be avoided.

ISOLATION OF THE PATIENT.

As the result of every effort to limit the spread of diphtheria will depend chiefly upon the degree to which isolation can be carried out, it is urged that every case be isolated as thoroughly as possible, and that, with the exception of the nurse, all persons, especially children, be excluded from the room.

ANTITOXIN.

The department is prepared to furnish free of cost to any member of the profession who applies for it at this office, fresh anti-diphtheritic serum of a high grade of anti-toxic power, on condition that the full dose shall be given and that the blank accompa-

nying the bottle shall be filled out and returned to the department. The use of antitoxin in Brooklyn having been somewhat limited, your attention is called to the following figures from other sources :

PARIS.

First quarter of three years, 1892, 1893 and 1894, without antitoxin :

Cases.....	1743
Deaths.....	923
Mortality rate.....	53 per cent.

First quarter of 1895, with antitoxin :

Cases.....	520
Deaths.....	122
Mortality rate.....	14.9 per cent.

BERLIN.

Patients treated with antitoxin from October 1, 1894, to April 1, 1895 :

Total cases treated....	5,833	Hospital cases treated	1,442
Deaths.....	559	Deaths.....	210
Mortality rate..	9.6 per cent.	Mortality rate,	14.6 per cent.
Cases in private practice.....	4,391		
Deaths.....	349		
Mortality rate..	7.9 per cent.		

REMOVAL.

The great majority of cases of diphtheria occur in crowded tenements where proper supervision and isolation are impracticable or impossible. In such cases the department urges the removal of the patients to the Kingston Avenue Hospital, where they will receive the best of care, and where, if necessary, the mother or some other member of the family can go and remain as nurse during the patient's illness.

Hoping in this, as in other appeals, to secure the co-operation of the profession in the interest of public health, I remain,

Sincerely yours,

Z. TAYLOR EMERY, M.D.,
Commissioner of Health.





THOMAS KEITH.

THE BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.

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VOL. X., No. 2. }
WHOLE NO. 98. }

BROOKLYN, N. Y., FEBRUARY, 1896. {Single copies 25 cents.
\$2 a year, in advance.

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

THOMAS KEITH.

BY ALEX. J. C. SKENE.

A remarkable man and great surgeon has gone to his rest.

Thomas Keith made such deep impressions upon those who knew him best that they remain clear and firm after he has gone. While no longer seen, his influence will be felt as long as the science of medicine lives.

A combination of peculiar circumstances contributed to the making of the distinguished Dr. Keith, whose good and great works were the admiration of the deepest thinkers in the medical profession of this age. His many fine talents were transmitted to him through a long line of honest, active, thinking men. The first noted one of this old and honored family was Marshal Keith, well known in the history of Scotland and whose memory is perpetuated in a very becoming way in Marshal College in Aberdeen.

Between Marshal and Thomas Keith there came many lords, gentlemen and scholars, who maintained the reputation of the name for intelligence and moral worth.

Thomas Keith was born at St. Cyrus in Kincardshire. His Father, the Rev. Dr. Skene Keith, a giant in body and mind, distinguished himself in the church and in literature. He was the

author of a work on Prophecy which is highly prized by theologians everywhere. Dr. Thomas Keith received his early education at the parish school, the grammar school and University of Aberdeen.

His medical education was wholly received in Edinburgh. In 1845 he was apprenticed to Sir J. V. Simpson, and served under him in the Edinburgh Maternity Hospital as house physician.

At the age of twenty-one he graduated at the Edinburgh University in the year 1848. Shortly afterwards he became Mr. Syme's resident in the old Royal Infirmary. The great surgeon recognized the natural ability of young Keith, and foretold that he would soon make a distinguished place for himself in surgery. He served under Syme for fifteen months, and then and there acquired that love for surgery which remained with him to the end.

From Syme and Edinburgh he went to Italy for two years, during which time he held the position of physician to the British embassy at the court of the King of Sardinia, at Turin. There he had the good fortune to meet the ablest surgeons in Italy. One of these (name forgotten) was a most skillful operator, and gave young Keith every opportunity to see his practice and profit by it.

Returning to Edinburgh, he began practice with his brother, George Skene Keith, then a noted physician, and there gained valuable experience in the practice of medicine and surgery, but from the first he inclined more to surgery. Gradually he drifted towards gynecological surgery, a branch of the art which occupied the best of his life, and in which he made his great reputation. He did his first ovariectomy in 1862, a time when this operation was in bad repute in Scotland and elsewhere. This was the second successful operation done in Scotland. A few days before Mr. Baker Brown, of London, had done one in Aberdeen.

His second case recovered, the third was lost; the fourth, a tumor weighing 120 pounds, made a good recovery, and from this onward his success, and simultaneously that of Sir Spencer Wells, quieted all faultfinders and made the operation acceptable in all parts of the civilized world. His first work was done before aseptic and antiseptic surgery was known, and he was well prepared to comprehend and adopt the discoveries of Lister, and was the first to turn them to account in abdominal surgery. Aided in this way, he made a record as an ovariectomist far in advance of anything in that day, and that remains unsurpassed at the present time.

When he had mastered ovariectomy, he took up hysterectomy, and very soon excelled all others in this difficult and hitherto dangerous operation.

When Keith had become known as the most successful operator of his time for ovarian and uterine diseases, the question was, "What is the secret of success of this master of his art and hero among men?" That question has never been fully answered. Parts of the secret have been revealed from time to time by those who have seen him at work and been impressed with his secret in operating, but that was only a part of a great whole.

His superior mentality, quick, clear perception and wonderful co-ordinating power which enabled his hands to obey his will; his extraordinary power of concentration of thought, his intense love of his art, and his thorough training, theoretical and practical, in all branches of medicine and surgery, all contributed to make him the man he was. He was recognized as a superior diagnostician, and possessing sound judgment in estimating the general condition of patients and the value of treatment—medical and surgical—for their relief, made him a master in selecting his treatment, preparing his cases for operating, and in their after treatment. To all these were added sterling honesty and heroic moral and intellectual courage that enabled him to withhold his hand or go boldly, fearlessly forward, as occasion required, utterly unmindful of consequences to himself. He possessed all requisite knowledge and skill required in his art, but none of that worldly wisdom of the trimmer which enables one to take precautions for self-advancement.

It is interesting to know what the people among whom he lived thought of him, so we give the following from the Scots Observer, under the heading "Modern Men."

"In more than one respect it is well that Thomas Keith was born to be a modern man. It is well for himself, because he is just the kind of person who, had he been born in the good old times, when witchcraft flourished, and convictions were practical and strong, would have had a fair chance of being burnt for a wizard, with the alternative of being worshipped as a saint. The barbarous people who at Melita showed the apostle Paul no little kindness, first thought he was a murderer whom vengeance suffered not to live, but then changed their minds and said he was a god. So it would have been with Thomas Keith. A weird-looking, gaunt, silent man, blessed with a passionate desire to

succor his kind, gifted with an absolute indifference to accepted opinion, possessed, 'as with a beneficent demon,' with an immense imaginative and intellectual courage that inspired him to attempt what seemed the impossible, and give himself up to the relieving of woes that looked beyond relief, he would have been burned on the Calton Hill or hanged in the Grassmarket had he failed : and had he succeeded, he would have been beatified, and perhaps have had a little altar of his own in the Moray Aisle of St. Giles's. And he would so far have deserved his fate, for he has none of the worldly wisdom of the trimmer ; he is the antithesis of them that hedge and take precautions. He would not have called in the King's surgeon to consult with him beforehand, nor would he have warned all the gossips that the case was nearly hopeless. He would not even have visited a bad result upon his assistants or the weather. He would simply have done his very best to ensure success, without asking advice from any one. He would have fed and nursed his case with his own hands, and nearly broken his heart that all was done in vain. And afterwards he might have had some wild heretical theory to account for the bad issue : that the King's own surgeon, who had seen the operation and disapproved, had brought in infection in the miniver of his cloak or in his pouncet-box—his anti-plague.

It is well for us of this generation, for Thomas Keith is the representative in Scotland of that group of brilliant scientific surgeons who have practically revolutionized their art. In this decade we have been stock-taking. In no branch of science or art has the advance been more astounding, and the result to mankind more important, than in certain branches of operative surgery and in the principles which guide the surgeon in his treatment of wounds and disease. Thirty years ago a large class of surgical tumors in women were badly understood, and were practically removed from treatment. Here, in Edinburgh, and elsewhere, bold men were trying experiments ; and the result had been so dubious, and the consensus of the older surgeons was so hostile, that to take up the work it required both courage and self-denial. But Keith felt that taken up it must be. With no hospital appointment at his back : with the countenance of a very small minority of the profession ; at his own expense and risk, and sustained by his own personal devotion—he operated on one poor woman after another, ever increasing his technical knowledge and dexterity, always learning from his difficulties, profiting by his errors, and still diminishing his mortality, till he made Edinburgh a center

of both teaching and of healing. After his first twenty or thirty cases, he read, in admirable Saxon-English, a paper to his professional brethren on his work, and an epoch-making thing it was. None present but must still retain the profound impression as he told how he had been compelled to take up the great work, and recounted the difficulties and the dangers he and his patients had overcome. From that evening progress was assured. The confession carried conviction ; old prejudices and theories were swept away as in the blast of a great wind ; Keith became the master-authority on this matter, not only for Scotland, but for other lands. It is not for us to tell in detail the enormous gain to suffering women that has accrued from his practice and teaching. Many of his pupils have learned from him to be teachers, and, in their turn, inventors ; and when the time came it was found that Edinburgh could spare him—even Thomas Keith !—to London.

“There were much to say of his quaint and taking individuality ; of his weird, sad, long-haired face and dreamy eye ; of his northern speech, with his occasional lapses from the diction of culture into the broadest Doric. But, being still with us—who owe him so much, and to whom his life and work are so excellent and shining an example of what a good, strong man may do—he is not yet public property ; and the Scots Observer is not a society journal. But it is lawful and pleasant to note that in many points his surgical history has been remarkable. As a rule those who have achieved great names as surgeons and great fame as consultants follow the same path to success. They early in life thus choose their line ; they attach to an hospital ; they teach their special subject in a medical school ; they take their opportunities of writing books or pamphlets. If they have the natural gift or have acquired the proper knowledge, being in the right way, they gradually attain to eminence ; practice makes perfect : their pupils become practitioners, and they, their old masters, are called as consultants in the need of a second opinion. Other men read their books, and perhaps the public hears the names of them ; and so, legitimately and honorably, are reputations made and fortunes achieved. Others (and these are chiefly physicians) leap to the consultant rank from the springboard of great general practice, are the servants and healers of many, and in this way win themselves a character for experience and practical wisdom which appeals alike to the ignorant public and the puzzled profession. Probably out of the abundance of their experience they also

write books, and probably their books are mostly practical. Here in Edinburgh Syme and Spence were types of the first, while Abercrombie, Davidson and the elder Begbie were examples of the second. Now, Keith's career has been on altogether different lines. After a distinguished hospital and undergraduate experience, the aim of which was chiefly surgical, he drifted into general practice (with a special liking for aural disease), and he must have been nearer forty than thirty when the real work of his life began. Even then he was attached to no hospital; and it was not until his fame had grown world-wide that the managers of the Royal Infirmary (Edinburgh) were moved to put a certain number of beds at his disposal. Again, he did not teach himself into repute; he has never given a course of lectures; it is by the bed-sides of his cases, or within the four walls of his study, that the priceless information which men come from all parts of the world to seek is yielded up to them. And still less has he printed himself into immortality, for his writings on his own subject are few and brief, while his controversial notes on disputed points of treatment (and in the less worthy direction of personal and professional polemic), though written with fire and spirit—for he can wield both mace and rapier—are the merest ephemerides, and his reports upon his work are priceless to his successors alone. It was the high courage that avoided no difficulty however enormous it bulked, and declined no problem however hopeless of solution it appeared; it was the extraordinary measure of success that rewarded a personal devotion to the points at issue, and a temperamental outlay that were more extraordinary still; it was the high-hearted simplicity with which Keith met his difficulties, his failures, and his successes alike—it was these qualities, among others, that showed Scotland and the world that here was a master of his art, and therewith a hero among men. And in this connection there is yet another thing to tell of him. That were a poor and insufficient notice of his work which took no count of the fact that it has been done in the teeth of bad health and great bodily suffering; that often has he operated when he was himself unfit to stand, and his own case seemed as bad as his patient's.

“London has more Scotsmen than Edinburgh, and they can hold their own anywhere; but when the century's great names in surgery come to be written, among the Scotsmen in London or in Scotland there will be none greater than that of Thomas Keith.”

A few words remain to be put down here regarding Dr. Keith as he appeared to the profession and people of this country.

Here, as in his own country and elsewhere, Dr. Keith was best known and most admired by those of the highest intelligence, culture and moral worth. The greatest American gynecologist, J. Marion Sims, was a devoted friend and enthusiastic admirer of Dr. Keith, and has said and written many beautiful things of him. Sims appreciated the work of his friend and acknowledged it to be the best that he had seen, and he admired the man with an enthusiasm that was characteristic of the great, warm-hearted, broad-minded American.

Keith and Sims were unlike each other in all things excepting their intense devotion to surgery and high regard for each other.

Many other Americans visited Dr. Keith, and all returned with kind regards for the man and his work.

His name was seen constantly in the current medical literature of the country, and always on the side of the best surgery and most honest opinions.

In turn, Dr. Keith was a great admirer of America, and always kindly received those from this country who went to see him. He took pleasure in giving full credit to American surgeons for all their achievements. His attitude in this respect is well expressed in his writings. In his work on fibroids he says: "Knowing well how far behind you our hospital teaching is in some departments of, woman's surgery, I sent my sons to America to study your ways and be for a time under the influence of such minds as those of J. Marion Sims, Emmet, Thomas and others." Again, in writing of hysterectomy for fibroid tumors of the uterus, he said: "And, after all, I offer you something that is not mine, but is of American origin; for though hysterectomy may have been performed by others by misadventure, if I greatly mistake not, the first case of uterine fibroid diagnosed before operation was removed by my old friend Dr. Kimball of Lowell." In his treatment of his professional brethren here and everywhere he was scrupulously honest. The obituary notice of him in the *British Gynecological Journal* has the following, which shows one side of the man's character in clear light: "On one occasion some very ill-natured and unfounded remarks were made by a man of high position with reference to a patient both had seen and whom Keith had operated upon. These remarks were fully reported to him; after listening and thinking for a little, he rejoined simply: 'Oh, he should not have said that.'

Such was the philosophical nature of the man that a slander others would have founded a libel action on never ruffled his equanimity for a moment."

His one brief visit to this country was greatly enjoyed by him, and the few who saw him while here were fascinated by him. He was here in the early summer and enjoyed the climate. "I like the heat," he said; "it agrees with me; it is fine, and the clear sky and bright light are grand to operate in. This is the country for me if I was younger."

Here, as in his own home, he was a quiet, unostentatious, extremely modest man, but courageous and fearless in the highest degree. He was never satisfied with himself or his work, so he kept on striving to improve in all things. While carefully, constantly criticising his own work, he had only a kindly word for those who followed in the path that he had made for them.

Dr. Keith was not a voluminous writer. He said of himself: "I write little for I know little. I am every day changing the ways of my work, and the dread of giving an uncertain sound is heavy upon my mind."

That which he did write was like all that he did and said, original and invaluable, and bore the stamp of an intellectual, honest man, and "a hero in surgery."

ANTITOXIN: INDICATIONS FOR ITS USE AND MODE OF ADMINISTRATION.

BY A. CAMPBELL WHITE, M.D.,

Resident Physician Willard Parker Hospital, New York.

I regret that I have not had time to prepare a paper for this evening, but considering the lateness of the hour perhaps if I tell in as few words as possible what I can about the administration and the indications for the administration of antitoxin, it will please you as well, having already heard two papers carefully prepared on this subject.

In my outline here I have first decided to consider what kind of cases we shall inject. Of course it is well, if our supply is unlimited, to inject all cases of diphtheria in order to give the antitoxin a fair trial; nevertheless, as the antitoxin is still somewhat limited in its supply, especially the better qualities, we may consider that there are certain cases in which it is especially indicated. There are forms of tonsillar diphtheria which always get

well, especially in older children, and then there are those cases where the nares are involved, which, as we all know, are the worst forms of diphtheria. It is these nasal cases which are particularly benefited by the use of antitoxin.

We have cases of diphtheria where there is very marked swelling of the tonsils with very little membrane, and these are probably cases of tonsilitis in which the Klebs-Loeffler bacilli are present and take only some small part in the inflammation. They begin with high temperature, vomiting and chills, and at the end of three days all the symptoms subside just as we would expect in an ordinary case of tonsilitis, still there may be some small patch of membrane. In these cases we do not see the marked results from antitoxin that we do in the more malignant cases of diphtheria.

Then it is in the nasal cases, particularly where we have glandular enlargement of the neck and a large amount of membrane coming down in the anterior and posterior nares, where the antitoxin does its best work and the work most marked.

In laryngeal cases by giving antitoxin, as I think we always should no matter how mild the symptoms may be, we save a great many more patients than formerly, and we at least prolong the life of patients who die. Previous to the use of the antitoxin, after having intubated, for instance, or performed tracheotomy, from 70 per cent. to 80 per cent. of the cases would die, and those that did succumb died in one, two, three, or four days after the operation. They died from septic pneumonia or septic bronchitis, resulting from the extension of the membrane or extension of the infection into the bronchi and the lobes of the lung. These operative cases do not die that way now. They at least live on some ten, fifteen or twenty days and die very slowly, the process showing that the antitoxin has had some retarding influence on this extension; for we do not find the membrane extending down and complicating our broncho-pneumonias or lobar-pneumonias, as before, when the patients died within four days with the lungs filled with pus, membrane and a large amount of exudation. In our cases first treated with Aronson's serum, already published, we save 75 per cent., I believe, of our laryngeal cases, and a very much larger proportion of the operative cases than we ever did before.

The age of the patient is also an important factor. Adults almost always get well in diphtheria; in children under sixteen and over five years with careful treatment the mortality is not

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much more than 10 per cent. In adults the quantity of serum required is so large, even of the best serums, that it is doubtful whether most of the cases injected with the serum have really been much benefited by it, the dose not being complete proportionately, but every child under five years, however mild the diphtheria or how severe, I think should be injected with the antitoxin.

All cases under five years must be considered severe. In the hospital the mortality in children under five years, whether laryngeal, or pharyngeal, or nasal, is above 40 per cent. always: so this is a class of cases where antitoxin is particularly indicated.

When shall we inject these cases? Of course it is well to inject them as early as possible, at least as early as possible after we have determined bacteriologically whether the case is true or false diphtheria; nevertheless, the time to inject does not depend so much on the previous duration of the disease as the character and rapidity of the process. We see cases that in two days are fully as bad as other cases are at the end of seven or eight days—it depends entirely on the condition of the child: that is, because a child is sick six seven or eight days, it does not contra-indicate the use of antitoxin by any means. If that child has had tonsillar diphtheria for seven or eight days and develops, as they frequently do, a nasal or laryngeal diphtheria, antitoxin is just as much indicated as if it was the beginning of the disease, and probably will do just as much good as if given at the beginning of the disease. The child itself may possibly and probably has developed some antitoxin in its own body.

The indications for repeating the injections seem to be considered differently by different observers. Many believe we should go entirely by the local symptoms. Unlike a great many other observers, I have seen no marked change in the disappearance or appearance of the membrane in most of the cases treated with antitoxin. It certainly has not appeared to me to shorten the duration of the pseudo-membrane more than one or two days, and in several cases mentioned in the paper just previously read it was stated that in seven or eight days the membrane disappeared—that is about the usual time under most treatments. The extension of swelling in the neck, the general condition of the child more particularly, are the indications I think for repeating the dose of antitoxin. I have seen children come into the hospital in whom we would give a very unfavorable prognosis; we could hardly believe they could live until the following morning, the

nares, pharynx and larynx all being involved. We would inject the child with antitoxin, at that time partially unconscious, and the following morning the child would be apparently well. As you came in and looked at the child it would seem perfectly well, it would take its food better, sit up in bed and notice you and in every way would appear ever so much better, but on looking at the throat the membrane had not disappeared at all, and it seemed remarkable to see a case that was so apparently well have the throat and nose so much involved. So that I should consider the general condition of the child the proper guide and not the temperature, because the temperature is oftentimes very high when antitoxin could in no way affect it, and the temperature in the very worst cases can be practically normal. I do not believe we can use, as I said before, the throat symptoms as a guide. In a case which I saw a few days ago in consultation outside the hospital, treated with one of the local serums, a very severe case, I gave a very unfavorable prognosis, hardly believing that the child could get well even with antitoxin treatment. He had been sick four or five days. In this case the membrane did disappear within about forty-eight hours. That is really the first case I have ever seen that impressed me markedly in that respect.

As regards the dose of antitoxin. We have now on the market several antitoxins. We have Behring's, Aronson's, and we are using a great deal in New York now a serum that is prepared, I believe, by the Board of Health under the supervision of Dr. Biggs. These are the only serums with which I have had personal experience. Of Behring's serum there are three strengths.

Now in determining the dose of these serums we must bear in mind the serum we are using. It has been said of Aronson's serum that the strength of that serum is not stated. I never have seen a vial of Aronson's serum in which the strength was not stated. I have used considerable of it, and in fact I always considered him as laying particular stress on this point. His serum has been verified, as well as Behring's, by the tests in our laboratory in New York.

The unfortunate part of Behring's serum is that he has three strengths (1—2—3). The serum No. 1 has been used a great deal as a curing or healing serum. This serum was never intended to be used as such. Almost every observer has mentioned the fact that large doses of weaker antitoxins or serums do not effect the cure that small doses of the stronger solutions do: that

is, we cannot seem to correspondingly increase the amount of serum and get the proper amount of antitoxin; clinically it does not give as good results, so that a great many have been prejudiced against using antitoxin from the mere fact that they have been using Behring's weaker antitoxin, or some other weak solution.

Behring's second serum (No. 2) was originally intended for cases that were mild: cases that you felt fairly sure were going to get well, but where you wanted to make assurance doubly sure, so gave them some of this No. 2.

The third (No. 3) is the one intended for the treatment of diphtheria—the forms that cause death. The No. 1 was only intended for immunizing purposes.

Behring's No. 3, and Aronson's serum, of which he makes but one, are of about the same strength and the dosage is about the same. For a child under five years with a fairly severe diphtheria we give five cubic centimeters (5 c.c.), to be repeated again if the general condition of the child does not improve. Ten cubic centimeters should be given to a child of such age if the case is very severe. It is rarely necessary to give more than that, although sometimes by repeating the dose we do give up as high as fifteen or twenty cubic centimeters.

I believe at the present time there is a horse under the treatment of the Board of Health which furnishes a serum fully as strong, if not more so, than these other two (Behring's and Aronson's). Certainly the very few cases I have seen treated with serum from this horse have been marked cases, and the results were very striking. The result where the membrane disappeared so rapidly was one of these cases.

The age of the patient must be considered in our dosage. When we come to treat children over five years of age, our dose increases more than proportionately and we have to give a much larger amount. I think 20 c.c. of any one of these antitoxins would be none too much for a grown child or an adult with a fairly mild case of diphtheria.

The choice of the site of injection is governed by just about the same rules as Dr. Fitzpatrick mentioned in selecting the place for injection in the horse. We first used the interscapular region and the buttocks. We found, although this was a very favorable site for the injection and it was readily absorbed there, still it caused considerable irritation to the child, who lay on his back most of the time. Although no abscesses or local symptoms of

importance resulted, we could see, some eight or ten hours after the injection, a large blotch on the child's back where, being constantly irritated, the injection had been the cause of considerable restlessness on the part of the child. We now inject in the chest in nearly all cases, just below the nipple, and we find it fully as satisfactory as the other position and with less trouble to the child afterward.

I have with me two syringes; one is the syringe used by Dr. Roux of Paris, or at least his assistants at the Infant's Hospital in Paris, imported by Oeschlaeger, on Twenty-third street, New York. Of the syringes seen in this country this is far superior to any other. I suppose they will be made here by some one very soon, as much like this as possible, although I believe Oeschlaeger intends to import them. It is more expensive than the other syringes, but at the same time more elaborate.

It must be remembered in selecting a syringe for this use that the antitoxin is very hard on the syringe; it quickly clogs the syringe and the parts come very easily out of order. This syringe is duplicate in nearly every part and can be taken apart and cleaned in any way you wish, and has the advantage of this little rubber tube, connecting the reservoir of the syringe with the needle. In injecting so large a quantity of the serum it is well to have a little play with your hand, so if the child struggles it does not tear the syringe or needle away. The reservoir can be detached from the rubber tube and filled with serum and the connection made again after the needle is in place. This syringe will cost, I think, with all the parts, \$7 or \$8.

This other syringe is one made by Ermhold. It has asbestos fittings. It is a new one, just made; it does not work so well, the needle slips off. The principle is about the same as the other, except the rubber tube between the needle and the syringe. The rubber tube is almost a necessity, and you will find it a great convenience.

The syringe of Behring I do not think is worth using. It has a rubber bulb like the Koch syringe. I was never able to inject a case with it. The Ermhold syringe is not nearly as good as the Roux syringe. The Ermhold syringe will cost three or four dollars, I think; I do not know the exact price.

Before injecting the serum the patient is prepared as carefully as possible. The site to be injected is first washed with tincture of green soap, then alcohol or ether, and after boiling the syringe and passing some antiseptic, such as creoline, through it, we fill

the syringe and inject the patient. It is best not to massage or rub the spot injected unless the quantity of serum used is very small.

As far as paralysis is concerned, we certainly ought to expect the paralysis to be prevented with the antitoxin, and where it has been given early in the disease, I think the histories of the cases I have seen undoubtedly prove it has had a beneficial effect upon that paralysis. I have seen one or two cases die from sudden heart failure that had been given the antitoxin treatment and were previously doing well, but both were injected very late, one as late as the sixth day. On the whole, I think other observers will bear this out, the paralysis seems to have been prevented by the use of antitoxin. It is difficult to tell to what extent exactly the paralysis has been prevented, because we know so little about the causes of this paralysis, and the paralysis differs so much in frequency in different epidemics and different classes of cases.

The cases which we first treated with Aronson's antitoxin, which was the strongest made, were just the cases in which we would expect paralysis to follow—the paralysis did not follow these cases.

There is no stated time between the first, second or third injections. We generally expect a change in the patient in nine to twelve hours, and if that change does not come we try again; although, at the same time, there is no rule or stated time between the injections. We depend entirely on the condition of the child.

In the cases I published there was no other treatment used than the antitoxin; at the same time, I think it extremely advisable to use local irrigation in connection with the antitoxin, stimulation and operative interference, the same as without the use of antitoxin.

THE KINGS COUNTY MEDICAL ASSOCIATION.

At the February meeting the President, J. C. Bierwirth, will read a paper on Chronic Interstitial Nephritis.

PRACTICAL EXPERIENCES WITH ANTITOXIN.

BY JAMES L. KORTRIGHT, M.D.

No further demonstration is needed regarding the value of antitoxin in the treatment of diphtheria. Its precision of action, its certainty of effect, the speed of the convalescence, and the perfection of the recovery are so striking as to convince even the most skeptical observer. The following figures are suggestive:

New York:

1st Quarter, 1890,	1343	Cases,	359	Deaths,	27	per cent.
1st " 1891,	1360	"	353	"	26	"
1st " 1892,	1555	"	407	"	26	"
1st " 1893,	1449	"	459	"	31	"
1st " 1894,	2539	"	712	"	28	"
1st " 1895,	2627	"	475	"	18	"

Brooklyn:

1st Quarter, 1890,	732	"	295	"	40	"
1st " 1891,	522	"	220	"	42	"
1st " 1892,	559	"	253	"	45	"
1st " 1893,	518	"	162	"	31	"
1st " 1894,	733	"	259	"	35	"
1st " 1895,	1149	"	282	"	24	"

It is only in the year '95 that antitoxin has been used, and we observe that the death rate in New York has decreased from 28 per cent. to 18 per cent., and in Brooklyn from 35 per cent. to 24 per cent. Possibly part of this decrease may be due to improved methods of diagnosis, by means of which cases formerly called tonsillitis are now classed as tonsillar diphtheria.

My theme to-night comprises a few practical points in the use of this remedy that may be of interest to consider; and certain unpleasant and dangerous accidents in the administration of the drug that may be of profit to study.

First, as to the site of the injection. The quantity injected is so large that only four parts of the body have the skin loose enough to receive it; beneath the nipple, the lateral aspect of the abdomen, the buttock and the outer side of the thigh, and between the shoulders in the middle of the back. The first location has the disadvantage of being sensitive, the second is traversed by large veins, the skin of the third is scarcely lax enough, the

fourth is awkward to reach, and after use renders rest in bed painful. The last location is the most safe; the sides of the abdomen are perhaps the most available sites for the injection.

DANGER OF INJECTING AIR INTO THE CIRCULATION.

In consequence of the large size of the syringes employed, and on account of the viscosity of the fluid injected, it is very difficult to be sure that no air is contained in the syringe. In obese patients, in spite of the most careful search, it is impossible to avoid wounding venous radicles. Experiments that I have made upon rabbits have proved that much larger bubbles than those necessarily left in the syringe give rise to no symptoms whatever when injected directly into the veins. If in the injection no vein be wounded, the air thrown in merely causes a slight local emphysema. The danger to the patient from this cause is not great with ordinary care.

DANGER OF INJECTING ANTITOXIN DIRECTLY INTO THE CIRCULATION.

Experiments upon rabbits show that direct injection of antitoxin into the veins produces effects in nowise different from those produced by injection into the connective tissue. Reference should be made here to the effects of the transfusion of blood of one species of mammals into the vessels of another species. Landois states that the blood serum of some mammals dissolves the blood corpuscles of other mammals. Lamb's blood or its serum dissolves human corpuscles with great rapidity. The serum of the horse dissolves them relatively slowly. The first result of this solution is to redden the plasma by the liberated hæmoglobin. This hæmoglobin is used up in the formation of bile, and when excessive may be excreted unchanged by the kidney. Fisher, of New York, has observed hæmoglobinuria in diphtheria after the use of antitoxin. When heterogeneous blood serum is transfused, two dangerous phenomena may occur: First, before the corpuscles are completely dissolved they usually run together and form sticky masses of from ten to twelve corpuscles each. These masses may occlude capillaries and form thrombi. Second, the presence of increased quantities of hæmoglobin in the plasma may cause extensive coagulation within the blood vessels. The symptoms produced by this coagulation will depend on the site of the thrombi. Death may occur suddenly or after the lapse of considerable time.

DANGER OF COAGULATION ITSELF.

Antitoxin being blood serum, is coagulated by all substances which coagulate serum albumin, as, for example, alcohol, all of

our ordinary antiseptics, as lysol, trikresol, carbolic acid, bichloride. Minute particles of any of these substances lurking in the syringe may produce small clots which may pass through the needle into the connective tissue or even directly into a venous radicle. These emboli in the connective tissue being aseptic will liquefy and be slowly absorbed. In the circulation they may cause emboli in the pulmonary artery or pass through the lungs into the systemic circulation. So far as is known, Dr. Wilson is the only one who has noticed this behavior of antitoxin. It would be well for the manufacturers to call the attention of the public to this danger and in their printed circulars to enumerate the common substances which possess this quality of coagulating antitoxin. Mention may be made here of a quantity of serum, till recently, at least, in the New York market, which was subjected to prolonged freezing in transit from Europe. What effect this exposure may have had upon the curative power of the drug or its innocuousness, it is impossible to say. As at present dispensed, it is difficult to judge of the quality of any given sample; the label entirely surrounds the bottle. The label should either be smaller or so attached that a view of the contents by transmitted light can be obtained.

Turning now to the second division of our subject, we note three different classes of disagreeable effects from antitoxin: Eruptions on the skin, inflammation of the joints, septicæmia. All sequelæ are more common in those cases in which the microscope fails to find the characteristic bacilli. The point should be borne in mind that antitoxin is not a harmless remedy and is not to be given lightly in cases of suspected diphtheria. It is better to withhold the remedy until the bacteriological examination is completed, unless the case is unmistakable, or urgent laryngeal symptoms be present.

ERUPTIONS.

Fisher, of New York, describes these eruptions as follows: "Some look like scarlet fever, some appear like measles, most of them look like erythema, seven cases looked like urticaria, nine cases showed purpura hæmorrhagica." He believes that the greater the quantity of antitoxin, the greater the liability to eruptions. Biggs, in his paper before the Academy recently, endorses this statement. Urticaria usually appears about eight days after the injection, accompanied by intense itching and with or without a febrile reaction. Rashes appear in about one-sixth of the cases treated, and disappear in two days.

Inflammation of the joints is more infrequent and more troublesome. A typical case is as follows: Marie, aged twenty-six years, was taken in January with symptoms of diphtheria. There had been just previously two fatal cases of the disease in the apartment house in which she was residing. Before the bacteriological examination was completed she received 25cc. of antitoxin from the Pasteur Institute, of New York. No Klebs-Loeffler bacilli were found by the microscope. She made a prompt recovery in four days. Eleven days after the injection, she was seized with pains in the ankles, effusion into all the tarsal joints. Locomotion became almost impossible. After ten weeks, she still had pain, stiffness, and tenderness, but without swelling. Iron preparations relieved her more than any other drug. Thus far there have not been any cases of suppuration within the joints reported. The articular lesion may be accompanied by sweating and other rheumatic signs.

SEPSIS.

Both of the processes just described are toxic in their origin. In addition, a true septicæmia occurs. Septic conditions are noted very frequently during the course of diphtheria, and are usually due to the disease itself. It may be perhaps unnecessary to repeat that antitoxin exercises no influence either preventive or curative over streptococcus infection. The following is a case of septicæmia caused by serum: "A child, aged three, had slept in the same bed as her sister who had had diphtheria and had been successfully treated by the serum. The parents insisted that the child should be immunized, and accordingly 2cc. of Behring's No. 1 were injected. The next morning the child was depressed. On the following day she had fever and violent pains in the lumbar region. The urine contained albumen. On the next day the temperature rose to 103° F.; petechiæ appeared on the legs, and on the fourth day the child died. The case is reported in the British Medical Journal of March 2, 1895. Winters, at the late meeting of the Academy, reported several similar cases.

I have now to report three cases that I cannot classify: On March 27, 1895, I was called to a little boy eight years old, almost moribund from malignant diphtheria. The family had not suspected the serious nature of his illness, and had tried home remedies for five days before seeking professional help. He died the same day. When I announced the diagnosis, his cousin, Bertha Valentine, a stout, well-nourished girl of sixteen years, asked me to examine her throat. There were a few spots occu-

pying the crypts of the right tonsil. Other functions were normal. Local applications of powdered sulphur were used for one day. On March 28th, the temperature was 101° . Nausea was present and there was a grayish exudate over both tonsils, extending upward to the pillars of the fauces and backward upon the pharyngeal wall. Bacteriological examination showed an almost pure culture of the Klebs-Loeffler bacillus. At 3 p.m. of the same day, she received 10 cc. of Behring's serum No. 2. The injection was made at the left lateral aspect of the abdomen. Skin, hands, and syringe were cleansed with a 1 per cent. solution of lysol. The antitoxin was obtained directly from the agent, and was marked operation 159, examined Jan. 30, filled Jan. 31. After the injection, the patient said to me, "It makes a lump in your stomach, doesn't it, Doctor?" I quote this remark to show that the serum was thrown into the connective tissue and not directly into the circulation. About five minutes after the injection, the girl complained of tingling and became restless. This paræsthesia was immediately followed by a slight general convulsion. This mild spasm was followed at once by general tonic and clonic convulsions, accompanied by marked opisthotonos, cyanosis, and absolute cessation of breathing. The pulse was rapid, small, and forcible. The only attempt at respiration was a slight spasmodic contraction of the facial respiratory muscles. Artificial respiration was kept up till the heart stopped. The time in all was perhaps three minutes from the first sensation of tingling till death. I at once notified the coroner, and submit herewith the report of the coroner's physician, Dr. Clayland. The autopsy was made eighteen hours after death. Body well nourished. Rigor mortis well-marked. No œdema. There is a small punctured wound on the left side of the anterior abdominal wall. This puncture does not penetrate the peritoneal cavity, but in its course transfixes a small vein in the abdominal fat. The brain and meninges are congested. The liver, and especially the kidneys, are markedly congested. The lungs are normal. The heart is in systole; its left side is empty; the right side contains a small amount of fluid blood. There is slight atheroma of the aorta near the valves. The pulmonary artery contains no clots, and the larynx and trachea contain no foreign body." Death is evidently due to something that abrogated the function of the respiratory center in the medulla. Two theories suggest themselves, one mechanical, the other chemical: 1st. Bearing in mind what was said above regarding the effects of the transfusion

of heterogeneous blood, it seems possible, and perhaps plausible, that masses of softened blood corpuscles lodged in the medulla and cut off the blood supply to the respiratory center. 2d. In some unknown manner, the antitoxin may have been contaminated by some unknown substance, or the serum may have decomposed into some poisonous compound. Examinations of other bottles of the same series of antitoxin proved them in proper order. Such an examination, of course, proves nothing regarding the bottle used. It shows merely that the entire quantity need not be thrown away. It is useless to speculate on what might have been the cause. The lesson to learn is how to avoid such an accident in the future. It would be easy to make sure that the antitoxin is in good order by injecting a small quantity into some lower animal immediately before the administration to our patient. I believe in this trial injection we have found a new use for the family cat. I desire, therefore, to suggest to all manufacturers of antitoxin that they put a little more than a dose in each bottle, with directions that the excess is to be used as a precautionary injection. If the physician does not care to make such an injection, he acts at his own risk. Thus the manufacturer is protected from all possibility of blame.

Case second occurred in the practice of Dr. W. L. Applegate, of this city, who kindly allows me to report it. A strong boy of four years was taken sick with nasal and pharyngeal diphtheria on April 27th. Cultures from the throat showed the presence of the Klebs-Loeffler bacillus. On the fourth day, 15 cc. of Roux's antitoxin from the Pasteur Institute of New York were injected into the left anterior abdominal region. An ordinary hypodermic syringe was used, and several punctures were necessary to complete the injection. One hour afterward the child became very restless and complained of complete loss of vision. The jactitation increased with profound vital depression. Three hours after the injection the patient expired in convulsions.

The third case is reported in the *British Medical Journal* of Feb. 2d, page 202. A male child, aged four and one-half years, was admitted to the Aberdeen City Hospital, Dec. 24, 1894, on the second day of the disease. On the 25th, he received 5 iss. of Klein's antitoxin. On the 26th, the larynx was involved, and he was tracheotomized. The membrane disappeared, and he felt well till Jan. 1st. He then became drowsy and showed a febrile movement. On Jan. 3d, there was diphtheritic membrane in the tracheotomy wound, and he received another drachm of Klein's

serum into his back between his shoulders. Breathing immediately ceased, but the child was brought around by artificial respiration and hypodermics of brandy. He died after six hours.

RECAPITULATION.

Antitoxin serum is a remedy of great power in the treatment of Klebs-Loeffler diphtheria. Its use is followed in a certain proportion of cases by complications that are disagreeable, painful, or dangerous. These complications are more frequent where antitoxin has been given in cases of false diphtheria. Hence the drug is not to be lightly used, and only after bacteriological examination has shown the presence of the proper bacilli. A test of the purity of the preparation should be made immediately before use by giving a precautionary injection to some lower animal.

DISCUSSION.

Dr. A. S. Ambler: Mr. President, I feel that I have but little to say. Have had some little experience—some eighty cases. Can present a few facts concerning patients treated with antitoxin at the Kingston Avenue Hospital during the past four months, and our conclusions based upon the daily observation of the cases.

A summary of fifty cases shows forty-one recoveries and nine deaths. Of this number of fatal cases, three died within a few hours after reaching the hospital, and were undoubtedly hopeless cases. This shows a death rate of 18 per cent., or, excluding the above stated cases, 13 per cent. for those patients receiving the antitoxin in time to derive benefit from its use.

During this time we had under treatment fifty-one cases which did not receive the serum, reserving the serum for the severe and progressive forms of the disease, and the results obtained compel us to a belief in the curative action of the remedy. Of a total of 101 cases, there were twenty-one deaths, or a death rate of 20.8 per cent., one-half of which were treated with antitoxin, the others receiving the treatment in vogue before the introduction of antitoxin as a therapeutic agent. These figures give a death rate of 23.5 per cent. for those cases that did not receive the serum treatment.

It is to be noted that of the twenty-one fatal cases eleven died within twenty hours after admission to the hospital, and were too far advanced in the disease to derive benefit from any treatment. This death rate is considerably lower than that shown by the

records of the hospital since its institution, last year's mortality being 29.3 per cent. This remedy has given us peculiarly gratifying results in nasal diphtheria and in those cases showing extensive glandular enlargement with painful deglutition, by staying the further progress of the swelling and for the relief of pain.

No deaths have occurred in those cases treated within the first two days of the disease. One death from laryngeal stenosis in a case treated on the third day of the disease. The other fatal case did not receive the antitoxin until some time later than the fifth day.

In the administration of the serum, we have found it necessary to judge the case more from its individual characteristics and the course of the disease than by the number of days from the beginning of the attack, as some cases progress more slowly than others, showing symptoms and clinical manifestations of a profound infection later in the disease. We have found that beneficial results can be obtained where the serum is used for the first time in certain cases many days from the beginning of the attack. Patients developing the nasal or laryngeal form by extension of the diphtheritic process have been greatly benefited by an injection at that time.

Aronson's serum was used in forty-five cases; Behring's No. 2 in four cases; Gabiar's in one case. The quantity given has varied from 5 cc. to 20 cc.

The average duration of the membrane has been nine days, and the bacilli have been reported absent in from seven to twenty-four days, the average time being fifteen days.

A slight rash simulating that of urticaria has occurred in three cases, following the injection by about eight days, with but slight constitutional disturbance.

The usual sequelæ have, we think, been lessened. Paralysis has been less frequently observed, and milder in character. No case of suppression of urine has followed its use, and renal troubles have been of much less frequent occurrence.

Our temperature records fail to disclose any great rise following the injections, three-fifths of a degree being the maximum.

It has been due to our observation of the individual character of cases treated more than to the statistical record that we have become convinced of the advantages of this mode of treatment.

Prompt recovery has followed in cases of laryngeal stenosis requiring intubation where no other treatment was employed. The improvement in the general condition of the patients has

been very marked, following within twenty-four hours after injection.

We have had no ill results from its use in any case.

Dr. Alexander Hutchins: This paper of Dr. Kortright's is very important. I think we have all, since his experience, had a very earnest desire to avoid any of these disasters, and I would like to have him, from his own observation, answer two questions, for my own benefit and for the benefit of the Society.

In the first place, is there any evidence from practical observation that the injection of this serum has had any effect deleterious upon the lower animals? If that is true, what advice will Dr. Kortright give us as to the length of time to wait after the experiment is made upon the lower animals in these cases of precaution?

Dr. Geo. McNaughton: I should like to report a few cases of laryngeal diphtheria having some bearing on the use of antitoxin. I have treated twenty cases of laryngeal diphtheria with antitoxin. Seventeen of them were intubated; of this number, three died, the remainder having recovered, or about 88 per cent. To compare these with cases not treated with antitoxin, but intubated, I looked up the nineteen preceding cases, and of that number thirteen died and six recovered, or 31 per cent., about the average percentage of recoveries. I believe that the better results are largely due to antitoxin, because I could not determine that these cases were different from others, and I believe laryngeal diphtheria is a proper test for antitoxin, because in these cases you cannot well apply an antiseptic solution locally. It has been suggested by men who have written upon this subject that we have complications following more frequently than reported. So far as I know, there has been only one serious result following any one of these injections. I have made perhaps twice that number of injections in general diphtheria, pharyngeal, tonsillar, etc. In one case it was followed by the local symptoms which Dr. Kortright has described. I shall continue to use antitoxin so long as the results are as satisfactory as they have been during the past five or six months.

Dr. J. H. Raymond: Just a word on this subject of the difference in severity of diphtheria in different epidemics.

I had occasion some years ago to go over the statistics of the Board of Health from the beginning, when diphtheria was first recorded in Brooklyn, in 1859, and if you will look at the report of the deaths and the reported cases, and compare them for a

period from 1874, when the reported cases were first recorded, to 1894, you will find a remarkable uniformity ; in the neighborhood, if I remember rightly, of about 36 per cent., and that runs along year after year. Now if there is such a difference between different periods, it would certainly seem that in as long a period as twelve years that difference should show itself. I know it is said that mild cases are not reported—that is true ; still that same statement is true of all the years. There is no more reason why mild cases should not be reported in one year than in another, and it seems to me where we find such a uniform mortality rate as has existed in Brooklyn for twelve years, that that is a fact of a good deal of importance. And, therefore, when the figures diminish markedly I think we have a right to infer there is some other influence at work than that which has been at work all these years ; and if antitoxin is the only additional element in the question, it seems rational to attribute the diminution to antitoxin ; at any rate, the burden of proof is on those who claim otherwise.

[NOTE.—Since the meeting of the Society at which these remarks were made, I have collated the statistics from 1874 to 1894 inclusive, and append them hereto. I must acknowledge that the uniformity of the percentage of deaths to reported cases during the years 1874 to 1886 is not so great as I thought it to be, and since that time the variation is still greater.]

YEAR.	REPORTED CASES.	DEATHS.	PER CENT.
1874	1651	580	35
1875	2669	968	36
1876	2329	812	34
1877	2280	778	34
1878	1744	544	31
1879	1801	689	38
1880	2058	1118	36
1881	3218	1169	33
1882	1873	631	33
1883	1185	409	34
1884	976	385	38
1885	1348	519	38
1886	1679	782	46
1887	2336	950	40
1888	2297	868	38
1889	2798	1101	39
1890	2241	902	40

YEAR.	REPORTED CASES.	DEATHS.	PER CENT.
1891	1850	766	41
1892	1829	775	42
1893	1502	556	37
1894	3268	1141	35

J. H. RAYMOND.]

Dr. Wm. Maddren: I have one practical point to mention. Dr. Kortright has referred to the difficulty of getting rid of the air bubbles in the syringe caused by the viscosity of the serum. I have wasted much serum trying to expel them. I think if the syringe used was made more conical at the needle end, this difficulty could be avoided. I have ordered such a syringe to be made, as I consider the injection of even a few air bubbles a serious danger.

Dr. Chas. A. Kinch, of New York: If one may be permitted to speak who is not a member of the Society, I would like to say a word in regard to the turbidity of the serum.

Last winter I had a few cases in which I used serum prepared by the New York Board of Health, and it was injected by an Inspector of the Board of Health, and he brought different bottles of the same lot. Some had been preserved by the addition of carbolic acid. In that lot there was a slight turbidity of the serum. Others had been preserved by the addition of chloroform, and others by the addition of a few grains of camphor dropped into it. In those bottles in which chloroform or camphor was added to the serum, it was perfectly clear; the effects of the injection were uniformly good; I saw no bad results from either.

I might speak of one other case where a child eight months of age—but it appeared fourteen, it was so well developed—was in very bad hygienic surroundings. The mother was good natured, but had no idea of cleanliness, and had quite a family besides. This child had had whooping cough for about four weeks. It had also bronchitis, and at the time I was called to it there appeared to be an increase in temperature and a complicating pneumonia arising. I could not find much in the lungs, but I did find on the tonsil a diphtheritic membrane. There was also anuria. I immediately notified the Inspector and asked him to come in with some of the injection. He was able to give the child only eight cubic centimetres, which was all he had on hand. It produced marked improvement, and some twelve hours after the injection the kidneys acted freely. On the fourth day there

was again a diminution in the renal secretion; there was a decrease in the rosy color and a return of the pasty look in the child, getting worse from the diphtheria. There was a new development of the membrane in the throat. This being on the fifth day of the disease, I asked the Inspector to come in again, and he brought with him two bottles which had been opened and a portion taken out, one of Behring's antitoxin solution and one of Health Board serum, and he injected a portion from one and a smaller portion from the other, mixing them, and the second one was a little bit turbid. We felt as if we were taking risks, but because it was all we had, we gave it to the child. This second injection acted with the same good effect, and the result was that the child recovered. I looked for the notes of this case and intended to bring them to you, so as to give you a more particular but I hope the meagre report will be agreeable to you.

Dr. Kortright: I have nothing to add, Mr. President, except to thank the gentlemen for listening to the paper. It is a mere matter of coincidence, I believe, that Dr. McNaughton used some of the same series of antitoxin as that used in the fatal case of mine.

I am a little bit puzzled to answer Dr. Hutchins' question. I have no experience, and so far as I know there is no recorded observation as to the dangerous effect of antitoxin in the lower animals: still, if the injection is not followed by serious symptoms, I should think in half an hour or an hour that would be ample to warrant going on and giving a dose to the patient.

There may be such a thing as an individual idiosyncrasy by which this drug may have a bad effect on any given person. It is barely possible also that the atheroma of the aorta in this girl, may have contributed to her death.

With Dr. Ambler, I believe very thoroughly in the treatment of diphtheria with antitoxin. Since this fatal case I believe I have saved at least one child's life.

Dr. Bartley: I would like to ask Dr. Kortright if he noticed whether the specimen of serum that he used was clear and transparent, or cloudy?

Dr. Kortright: The label surrounds the bottle, but I think it was not markedly turbid.

Dr. Bartley: I asked the question because at one time, when I wanted to use the remedy, I examined four of five different bottles in one lot, and all of them were very turbid. I refused to use them and obtained another specimen, which was clear and

transparent. I did not know whether others had that experience or difficulty in getting a clear specimen, or whether there is any danger in the turbid specimen. At any rate, I certainly would not use a turbid specimen such as I saw in those four bottles. I would like to inquire whether anybody has ever employed one of these turbid solutions, and whether there has been any unusual complications from turbid specimens—whether they are safe or not. That is a practical point we ought to have some light upon.

Dr. Seth D. Boggs : I have seen both used, and with the same result ; with no marked difference.

Dr. E. H. Bartley : Dr. Kortright means to imply by his recommendation of a preliminary test that there was something the matter with the antitoxin and not in the girl herself.

Dr. Kortright : I do not wish to make any such statement at all, sir, except that by doing so you can feel confident, if any trouble arises, it is due to the drug. I do not wish to bring any accusation against any preparation.

Dr. Bartley : The impression made upon my mind was that he was afraid something might be the matter with the antitoxin, and that it would be better in future to test the antitoxin before using it.

Now, in this case, of course, it is useless to speculate as to the cause of death ; whether it was due to thrombosis, whether it was due to some decomposition of the remedy, whether it was due to some idiosyncrasy in this particular patient, or just what it was due to. But, sir, I must beg leave to reiterate the statement I made here at a previous meeting, and I think I was correct then, although I was met with the statement that no unfavorable results had ever been noticed after the injection of thousands of cases. The statement that I made was that it is at least questionable to inject this serum into the circulation or cellular tissue of a person before they actually have diphtheria, as a preventive measure. It seems to me that the dangers that are developing, as time goes on, and experience with the remedy increases, the dangers of injecting an uncertain solution like this are too great to warrant us in injecting it into a healthy child. One case was reported in the paper of a child who did not have diphtheria ; the child was well, but was injected for fear it might contract the disease, and died in consequence. Now, we all know that there are a certain number of individuals already immune. I have seen, and I presume others have seen the same,

one child sleeping for one or two nights in bed with another suffering with diphtheria, then isolated, and there was no development of the disease. There was every reason they should develop it, and yet they did not. Experiments with the serum of adults and children, conducted, I forget by whom, show that a large portion—about 55 per cent. —of adults' serum is about as good as this immunizing serum; that is, the persons themselves are immune. Children's blood showed a much less proportion to be immune than of adults. An organic solution, like this serum, in which the globulin and other substances are so likely to undergo secondary putrefactions and decompositions of various kinds, is in my mind an unsafe thing to inject in a healthy individual. And I would go further, and say that the mere presence of the bacilli will not warrant us in injecting this remedy. The severe cases, especially laryngeal cases, nasal cases, and those accompanied by a very marked enlargement of the cervical glands, are the only cases I think suitable for the use of this remedy.

I should like to hear the opinion of some of the other gentlemen on this subject. I am very sorry Dr. Winter is not here to give us his views on the danger side. I suppose most of us have read them, and they are very clear and very pointed. We have not only his statement, but the statement of one of the officers of the United States Government, who, after studying it in its home in Berlin, reports never having seen any good results from it. One remark on the subject of statistics.

Statistics drawn from one epidemic in comparison with another are not safe. My death rate—and I do not suppose I have any better method of treatment than anybody else, certainly nothing original—my death rate for the past six months is less than eighteen per cent. My death rate in other years has seldom, I think, been 20 per cent. or 25 per cent. Of course the death rate shown us by these statistics is open to a good deal of question, in this way: Up to within the past year, many, many cases of diphtheria were never reported to the Health Department. Now that I can have my diagnosis made certain for me, I report cases that otherwise I did not report. Cases that were somewhat questionable, I did not report. Of the cases I have reported this year, all but one have proved to be genuine diphtheria. One of them proved not to be. I am certain that a larger proportion of the cases have been reported this year than before, and the reduction in the death rate has not been due to antitoxin

alone, but to the larger number of cases reported. Of course, all of us reported cases that we thought were going to die, but some cases where it was a question whether it was diphtheria or not were not reported. Now the light cases are reported, which makes the death rate less. In this matter of statistics, we have not gone far enough yet to make a safe deduction from them.

Dr. Kortright: I have nothing further to say except to thank Dr. Bartley for calling attention to the fact which I desire to bring out very clearly, that antitoxin is not to be lightly used; never at all in suspected cases, never for immunizing purposes, and that it is better to wait for an examination to determine the presence of the bacillus.

If my learned colleague who does not believe in antitoxin will take the next fatal case he has, one of the small percentage of cases he loses, that is laryngeal, and will give it antitoxin most carefully, I think he will be convinced, as other skeptics have been, as to the value of the drug.

PHLEGMASIA ALBA DOLENS.

BY JOSEPH H. RAYMOND, M.D.

Read before the Brooklyn Gynecological Society, March, 1895.

In looking over the titles of the papers which have been read before the Brooklyn Gynecological Society since its beginning, I have been unable to find that the subject of phlegmasia alba dolens has been treated in a formal way, and indeed only occasional allusions have been made to it. It might at first be thought that this omission was due to the fact that only gynecological topics are brought here for discussion, but inasmuch as the object of the society is stated in the by-laws to be "the promotion of knowledge in all that pertains to gynecology and obstetrics," this explanation is not sufficient.

Another explanation of its absence from the titles of papers might be that the affection is not one of sufficient importance to engage the attention of the Fellows, or that if important its symptomology, pathology, and treatment are so well understood that its discussion would be but a repetition of what is already well known and settled. But is this so? I think I need hardly wait for an answer from this body of practical gynecologists and

obstetricians. I am sure that I voice the common sentiment when I say that if there is one affection to which women are liable, which may be justly regarded as one of the opprobria of medicine, it is *phlegmasia alba dolens*.

None of these explanations answers the question, and I am driven to this conclusion: that the disease has not been written upon for the reason that there are so many other diseases which are obtruding themselves upon us that this comparatively infrequent one has, although of recognized importance, been thrust into the background. Had this Society been in existence twenty years ago, I venture to say that *phlegmasia* would have been as often discussed by the Fellows as some of the subjects which have on more than one occasion received our attention, for then it was not as rare a disease as it is now. To what is its rarity to be ascribed? Of course the answer is, to aseptic and antiseptic midwifery. But if modern methods have done so much to mitigate the disease, why have they not eradicated it entirely from the list? This will be one of the questions which I shall have the pleasure of discussing in the paper which I have the honor to read before you to-night.

As a text for the comments which I shall have to make I will narrate the history of a case which is now under my care. I desire to preface this history with an expression of thanks for the great and inestimable assistance which has been given me in its management by Profs. Skene and Wight and Drs. W. H. Skene and Dickinson.

HISTORY.

Mrs. A. B., thirty-two years of age, has been a patient of mine since 1891. Of her history previous to my acquaintance with her, the following facts may be interesting:

She was born when her mother was seventeen years of age, and Dr. D. said at the time of the birth that he had never seen a child *squashed* so in his life, but that she would come out all right in time. The chin and forehead almost met and the nose was crushed in. She had no nails. The attending physician said at the time that great care would always have to be taken of her mother if she was going to have another baby, or, like this, it would be born at the seventh month. Just twelve months after, the doctor was sent for in great haste. When he came he found the mother of my patient lying on a sofa. He would not allow her to be moved until night, when she went to bed, and there she lay for two weeks. Abortion was thus prevented, and two

months later a boy was born. The next one, a girl, also premature, lived for a few hours only. This time the mother had a fall. All the other births went well.

Mrs. A. B., when grown, played the church organ for nearly twelve years, and of course this necessitated hard work with the legs and feet. Many a time she was almost unable to walk home after service, owing to pains in her legs, and particularly on Sundays when she would be "unwell," for even at that period she never gave up her work.

When about seventeen years of age she was very sick with periostitis, so far as I can ascertain both legs being affected.

She first came to me to be treated for a retroflexion of the uterus in 1891. She had recently been married and was very desirous of having children. After several months of treatment the uterus was restored to its normal position and she became pregnant. The uterus again became retroflexed, and at the end of three months, February, 1892, although every effort was made to avoid it, she miscarried.

She was also a sufferer from varicose veins of the lower extremities, especially the right, for which she wore with great benefit elastic stockings, and had at various times symptoms which were regarded as malarial and which quinine relieved.

In February, 1894, she again became pregnant. During her pregnancy she enjoyed excellent health, having no return throughout of the varicose veins, although she had discontinued the use of the elastic stockings. On November 30, 1894, she was confined, after a very easy and normal labor of four hours, the only abnormality consisting of a slightly lacerated perineum, which was at once restored. Two hours after the labor the pulse was 72 and the temperature, taken in the mouth, 99 $\frac{3}{4}$.

A few hours after labor the patient complained of a stiffness in the right thigh, but it was attributed to the labor itself.

At the end of the first twenty-four hours the pulse was 66 and the temperature 98 $\frac{3}{4}$. About the middle of the second day she complained of flatulence. At the end of the second day pulse was 76, temperature 99, nor had the pulse at any time been above 76 or the temperature above 100. For fifteen days subsequent to the labor it was necessary to use the catheter, no urine passing otherwise. Save a slight irritability of the bladder on one or two occasions, no bad results followed this continuous use.

At 4 P.M. of the afternoon of the third day the milk made its appearance. The amount was very slight, and after a few

days, during which the child was artificially fed, it dried up entirely.

At 9 P.M. of this, the third day after confinement, the temperature was $99\frac{2}{5}$. At this time the patient complained of indigestion and headache. At 2 A.M., near the close of the third day, she had quite a severe chill and the temperature went up to 101 and the pulse to 130. Perspiration was quite profuse. At 3.30 A.M. the temperature had fallen to $101\frac{1}{5}$, no medication having been given. Great pain in the stomach, accompanied by nausea, and severe headache were complained of.

Except that large clots began to come away on the third and fourth days, the lochia were normal in all respects throughout the history of the case.

On the morning of the fourth day I made my first visit since the temperature had gone above normal. It was at this time $101\frac{4}{5}$, and the pulse was 120. I prescribed in capsule sulphate of quinine $2\frac{1}{2}$ grains and dextro-quinine in the same amount. This was taken at 12 o'clock. At 3 P.M. temperature was $103\frac{2}{5}$ and pulse 110. The bowels not having moved, an enema was given which had the desired result, but in nowise affected the temperature. During the day a feeling of chilliness was several times experienced. At 6 P.M. the temperature was $103\frac{2}{5}$ and pulse 110. A second capsule was given at this time. At 9 P.M., the temperature was $102\frac{2}{5}$. At 11 P.M. the nurse gave a phenacetine tablet, 5 grains, and at 12 P.M. the temperature had gone down to $101\frac{2}{5}$, and another capsule was administered. At 7 A.M., which was the beginning of the fifth day, the temperature was $99\frac{3}{5}$ and pulse 90. A fluid movement of the bowels took place about this time. At 11 A.M. temperature $100\frac{2}{5}$, pulse 98. Patient complained of flatulence, but there was no pain anywhere over the abdomen on pressure. At 12 M. another capsule of quinine was given. At 2 P.M. the temperature was 103 and pulse 108. Phenacetine, 5 grains, was given at this time. At 3 P.M. temperature was the same, but pulse only 90. Patient perspired freely, and continued to complain of flatulence. Being very restless and having a headache, antipyrine, 5 grains, bromide of sodium, 20 grains, and citrate of caffeine, 1 grain, were given. At midnight the temperature was $99\frac{3}{5}$. At 3 A.M. another capsule was given. At 7 A.M., the beginning of the sixth day, temperature was $99\frac{4}{5}$, pulse 100. The distention from gas was so annoying as to prevent sleep, and an enema was given, which brought about a good movement

and greatly relieved the patient. At 11 o'clock A.M. the temperature had gone up to $101\frac{4}{5}$ and pulse to 114.

Although the lochia were in all respects normal, and although the temperature was so modified by quinine as to suggest that the patient might be suffering from a malarial complication, and not from sepsis, still the gaseous distention of the abdomen and a slight tenderness on deep pressure in the right iliac region seemed to make it desirable that the uterus should be washed out, and this was done with peroxide of hydrogen. No shreds or other abnormal material came away, nor was there any appreciable change in the course which the temperature took, gradually falling as it had done until the next morning, the beginning of the seventh day, when it was $99\frac{2}{5}$, the antiperiodic having been changed to Warburg's tincture.

During this, the seventh day, notwithstanding the antiperiodic and phenacetine, the temperature rose, until at 10 P.M. it was $104\frac{2}{5}$ and pulse 126. The bowels were again moved by enema, and the patient relieved from the flatulence; the temperature fell to 103 and the pulse to 118. For two nights the patient had not slept much and had complained of feeling weak. At 3 A.M. the temperature had fallen to $101\frac{2}{5}$. The patient now complained of a great deal of pain in the right thigh, locating it on the under surface. There was nothing to be seen on examination, and the character of the pain was neuralgic. At the beginning of the eighth day the temperature was $102\frac{1}{5}$, and notwithstanding quinine, which had been substituted for the Warburg's tincture, the temperature gradually rose, until at 12 o'clock midnight it was 105 and the pulse was 126. During the whole of this, the eighth day, the temperature remained at about 103, being unaffected by antiperiodics. The bowels began at this time to move every two or three hours, and the movements were fluid and accompanied with a good deal of gas. At the beginning of the ninth day the pain was very severe, and the nurse made hot applications, which very much relieved the patient. In the afternoon the temperature fell to $100\frac{2}{5}$, and the pain had so far subsided that the patient was very comfortable and slept. About this time the lochia, which had been gradually diminishing, stopped, not having for a moment been offensive. During this, the ninth day, the thigh began to swell, and a diagnosis of phlegmasia alba dolens was made.

I have gone somewhat into details thus far, because in my search for facts I have been unable to find a detailed history of

a case of this affection, and I have thought that in giving such a history I might be of assistance to others who should meet with a similar case.

From the ninth day on, the right thigh remained swollen, and the least movement was so painful that the patient feared to move it in the slightest degree. The relief from pain was greater when the leg was flexed on the thigh, and as a consequence the patient insisted on keeping it in this position. During the ninth, tenth, and eleventh days, the movements of the bowels were very frequent and of a fluid character and accompanied by the discharge of gas. The temperature remained pretty constantly at about 101 or 102.

On the eleventh day pain was felt in the right calf, and though there was not much swelling there, still it was evident that the process had extended to this part.

From this time until about the thirtieth day the temperature was in the neighborhood of 101, sometimes falling to 99 and on one occasion going as high as 102. The swelling in the thigh continued, but about the twenty-fifth day the redness began to disappear, the extreme distention of the skin to lessen, and the tissues to become oedematous. The relaxed condition which supervened enabled a more exact examination to be made; and although positive signs of fluctuation could not be made out, still the continued elevation of temperature and a rather more prominent portion on the under side of the thigh than elsewhere made it more than probable that there was a collection of pus in that region. The patient being under ether, an incision at this prominent point opened into an abscess, which extended for a considerable distance between the skin and muscles. With the treatment of washing with hydrogen peroxide and drainage this partially healed, but left a long sinus extending nearly to the knee. This sinus was later laid open, except a small bridge of skin.

At the time of the opening of this abscess, which was on the thirty-first day after confinement, it was deemed advisable while the patient was under ether to straighten the leg, which was semi-flexed upon the thigh. This was done with ease and without using any force. When the patient came out from the anæsthetic she complained of pain in the knee and in the hips, especially, however, of the knee. Eight hours after the abscess was opened the temperature had fallen from $102\frac{1}{2}$, which it was just before the operation, to $99\frac{2}{3}$, but the following morning it was

102 $\frac{2}{5}$. In a few hours the patient began to complain of nausea and belched a great deal of gas. The pain in the knee was very much diminished, though the knee was still sensitive. Later the pain returned and was referred more to the calf than to the knee. The patient would cry out in sleep, and when awake required to have her position changed every few minutes, permitting the nurse to do this only a very little at a time, so that there was for hours hardly a moment when the changing process was not under way.

On the thirty-fourth day, the third day after the opening of the abscess, the leg began to swell, and at this time the posterior part was exceedingly red, the redness being in lines, as if due to a lymphangitis. By the next day the swelling had increased very much, as had also the redness and heat. The temperature remained at about 102 for ten days, when it fell to 99 $\frac{2}{5}$ in the morning, going up again in the afternoon to 101. On the forty-third day the morning temperature was 98 $\frac{1}{5}$ and that of the afternoon was 100 $\frac{1}{5}$. From this time on for two weeks the morning temperature was 99 $\frac{1}{5}$ and that of the afternoon about 100–101 $\frac{1}{5}$. The leg remained of about the same size as at the height of the swelling, though the redness disappeared to a considerable extent, as did the sensitiveness.

The temperature now began to rise a little higher, reaching 101 and 102, but there was no evidence of pus formation in the leg. On the sixtieth day after confinement, the thirtieth after the abscess was opened, the twenty-seventh since the swelling of the leg began, the temperature ran up to 103, and it was decided to open the leg. This was done at a point midway between the calf and ankle, and a considerable amount of pus was discharged. The next morning the temperature had fallen to 100 $\frac{2}{5}$, but on the following day had again risen to 102, falling again to 101. Here it remained, although drainage was excellent. Peroxide of hydrogen, fifteen volumes strength, diluted one-half, was at this time used, employing a funnel and soft catheter for the purpose. In four hours the temperature fell from 101 to 99 $\frac{3}{5}$. In six hours it was again 101, but shortly fell to 99 $\frac{3}{5}$, and after two days to 98 $\frac{4}{5}$. On the third day, the sixty-third since confinement, it rose in the afternoon to 100 $\frac{1}{5}$, coming down on the morning of the fourth day to 99 $\frac{1}{5}$, going up in the afternoon to 100 $\frac{1}{5}$. On the morning of the fifth day it was 99 and in the afternoon 101. On the sixth day, 99 in the morning and 102 in the afternoon. On the seventh day, 99 $\frac{3}{5}$ in the morning and 101 $\frac{1}{5}$ in the

early evening. From this time until the eleventh day, the seventy-first after confinement, the temperature did not go below 100, nor above $101\frac{2}{3}$. Fluctuation was distinctly made out on the top of the thigh, just above the knee, and on this day this abscess was opened. At the same time the abscesses in the thigh and leg which had become sinuses were laid open and again packed. A drainage tube was placed in the abscess cavity above the knee joint. From the abscess above the knee joint there was profuse venous hemorrhage, which was controlled by packing. A careful examination of the joint failed to disclose any involvement of it in the suppurative process, and the motion was considerable. Bacteriological examination of the pus made by Dr. Wilson at the Hoagland Laboratory showed the presence of *staphylococcus pyogenes albus* and *streptococcus pyogenes*.

Subsequent to the opening of this last abscess the pulse became accelerated, being before the operation in the neighborhood of 110 and afterwards going as high as 134, and the temperature varying from $100\frac{2}{3}$ to $102\frac{1}{3}$. On the fourth day, the seventy-fifth after confinement, the morning temperature was 99 and the pulse 112. In the afternoon the temperature rose to $100\frac{1}{2}$. The next day the temperature was in the morning $100\frac{1}{3}$, pulse 110, and in the afternoon $102\frac{4}{5}$ and pulse 120. Two days subsequently, the seventy-seventh day, the temperature was $100\frac{2}{3}$ and pulse 120. On the following day, the seventy-eighth, the temperature rose to $101\frac{2}{3}$ and the pulse to 132. On the seventy-ninth day the temperature was $102\frac{2}{3}$ and pulse 125. On each of these days, as usual, the abscesses were thoroughly washed out with bichloride, 1:2000. On the eightieth day the temperature was $101\frac{2}{3}$ and pulse 128. The condition of the patient was such that it was fast becoming a question whether or not the thigh would have to be amputated in order to save the patient's life. On this day, the patient being under ether, a very thorough examination was made of the limb, and a small accumulation of pus was found in the abscess cavity above the knee. This was thoroughly evacuated and washed out with bichloride and the decision as to amputation deferred to ascertain whether the condition would be improved. The next day, the eighty-first, the temperature had fallen to $99\frac{1}{2}$ and the pulse to 108. In the afternoon, temperature was $100\frac{2}{3}$ and pulse 118, but in the evening the record was $99\frac{4}{5}$ and 124. On the eighty-second day, temperature $98\frac{4}{5}$, pulse 125, going in the afternoon to $101\frac{1}{3}$ and 118. On the eighty-third day, temperature in the morning $99\frac{4}{5}$, pulse 120, and in the evening

the temperature was $100\frac{1}{2}$. On the eighty-fourth day, morning temperature $98\frac{1}{2}$, pulse 100, afternoon temperature 99. On the eighty-fifth day morning temperature was $98\frac{1}{2}$.

CONDITION OF PATIENT (MARCH 1, '95).

Last evening, the ninety-fourth day, the temperature was $100\frac{1}{5}$; this morning, $98\frac{1}{5}$, and pulse 108. The original abscess in the thigh has healed; that on the leg is healed, all except a small sinus which runs toward the tibia, but, so far as can be told, does not reach it. There is a small bed-sore in the popliteal space, from which a small sinus runs beneath the skin for about an inch. The abscess on the top of the thigh discharges very little pus, though the drainage tube is still in. The entire limb can be handled, with gentleness, most of the sensitiveness having disappeared, though there is still some redness below and on the sides of the knee. The dressings can be readily applied, the patient being able to turn on her side without much difficulty. After the opening of the abscess above the knee, it was necessary to give ether every other day for nearly ten days when the dressing was done. Over the sacrum is a bed-sore an inch in diameter and of considerable depth, which has existed about ten days. It is, however, doing as well as could be expected, considering the low vitality of the patient.

Treatment—Local: hot applications; ol. of morphine; equal parts of iodine, aconite and laudanum; wrapping in raw cotton. Internal: codeine, and morphine for pain; tonics and nourishment and stimulants.

The practical questions which arise are :

1. Will the patient's life be spared?
2. If so, will it be at the expense of the limb? If amputation is required, it will doubtless be at the upper third of the thigh.
3. If life and limb are spared, what will be the condition of the limb as to usefulness?

Causation—What was the origin of the phlegmasia in this case? Accepting the theory that it is a septic process and due to the streptococcus pyogenes, which a bacteriological examination of the pus from the abscess above the knee joint showed to be present in this case, the question arises, how did this micro-organism find an entrance? There was no douching of the patient except that, as stated, peroxide of hydrogen was injected, and at this time the disease had already set in, so that granting the presence of the streptococci in the vagina, they could not have been carried into the uterus by douching, as probably hap-

pened in a case which occurred in Dr. Stub's practice, in which a nurse, contrary to his directions, gave a douche after confinement, which was followed by phlegmasia, which he attributed to the douche.

The labor was a very simple one, and no intra-uterine digital examination was made; the antiseptic precautions taken by both physician and nurse were thorough, and I may add that the nurse was one of the best and most experienced, trained under the eyes and after the methods of Prof. Jewett and Dr. Dickinson.

If we accept the statement of Ahlfeld that the streptococcus pyogenes is always present in the vagina, and that it is a very easy matter for it to gain admission to the uterus, where the points of entrance for the poison are exceedingly numerous in a recently confined woman, even in cases where the child has passed through the genital canal without causing apparent injury, we can readily understand how infection might occur. But we are met at once with this problem to solve: The micro-organisms always present and the endometrium always in a receptive condition, why is the affection so rare? Why is it not the rule, rather than the exception? Does the causation of the disease depend on the lowered vitality of the patient, the leucocytes of the blood not being able by the process of phagocytosis to destroy the pyogenic organisms? How many, many confinements occur in weak, debilitated women, and in how many of them does phlegmasia result? Or is there in the pregnant state some antitoxin developed which is fatal to these pyogenic organisms, and which was lacking in the case of my patient? I take it for granted that the presence of the streptococcus proves that my case could not have been one of those referred to by Ahlfeld, as due to "a purely mechanical cause and an easier coagulability of the blood."

If you ask me how my patient became infected, I must answer that I do not know.

One practical question suggests itself to me to ask: Does the knowledge that pathogenic organisms are always present in the vagina make it incumbent on obstetricians to disinfect the vagina and external genitals before every confinement, and never to use intra-uterine injections after confinement until the vagina has been thoroughly disinfected, the external os being so closed during this operation that no germs can possibly be carried into the cavity of the uterus? We all know that hundreds of practitioners never use douches prior to labor. Whose statistics as to phleg-

masia, or, indeed, other septic diseases are the better—those of the douchers or their opponents?

[NOTE.—February 1, 1896. The patient left her bed for the first time April 1st, a little more than four months from the date of the confinement. Since that time she has gradually improved and is now in her normal condition of health. She has gone about all summer on crutches, but is now able to walk without them and without a cane. The knee joint is stiff, although there is some slight motion. The tendo-achillis was at first very much contracted, so that the heel could not reach the ground. An apparatus was applied by Mr. Pfarre, of Tiemann & Co., which has improved this condition so that the heel now nearly touches the ground.]

(*To be continued.*)

PROGRESS IN MEDICINE.

SURGERY.

BY GEORGE R. FOWLER, M.D.,

ASSISTED BY DR. RUSSELL S. FOWLER.

SPLEENOPEXY.

Plücker (*Centralblatt für Chirurgie*, '95, 40, pp. 905-907) reports a case of floating spleen occurring in Bardenheuer's private practice, in which a new operative procedure was used. The history was as follows: The patient was a female, twenty-three years of age; married for five years; no children; had aborted three times. There was no malarial history. She had suffered from gastric and spinal pains. There had been no hemorrhage. Examination showed a left-sided tumor of the uterine adnexa. By vaginal examination the uterus was found retroflexed, somewhat fixed by adhesions, and somewhat enlarged. The right ovary was freely movable, and of normal size, the right tube was not thickened. The left ovary was not felt. In its place was found a mass as large as a double fist, which was smooth, solid, movable, and filled the true pelvis. Floating kidney was excluded; floating spleen was considered, but the diagnosis finally reached was benign tumor of the uterine adnexa, with simultaneous retroflexion and fixation.

Operation: Chloroform; ether narcosis; Trendelenburg position; median incision. A bluish-red hypertrophied tumor was

found in the region indicated. It was easily lifted out of the pelvis. This proved to be the spleen. It was decided to fix this extra-peritoneally. The uterus was brought forward and fixed to the anterior abdominal wall, and the abdominal wound closed.

The patient was then placed on her right side, the flank being elevated by means of a sand-bag. A horizontal incision, ten centimetres in length, was made from the crest of the ilium to the costal arch. Another incision of the same length at right angles to this and joining it was made, parallel to the tenth rib. These incisions extended to the peritoneum. The flap of skin and muscle was now turned back. The parietal peritoneum was dissected loose from the lateral abdominal wall for quite a distance upward and downward, and an incision made in it just large enough to admit of the spleen being crowded through. Through this incision the spleen was forced by pressure from the abdominal side. A series of sutures narrowed the peritoneal opening and affixed it to the hilus of the spleen. In order to fix the spleen in this position, a suture was led around the tenth rib and then through the lower pole of the spleen. This suture was left untied until a complete pouch was formed around the lower extremity of the spleen by means of interrupted sutures, taking in the fascia separated below the tenth rib on one side and the retro-peritoneal adipose and connective tissue on the other, when it was tied. Individual sutures were used along the surface of the spleen. These sutures caused a very inconsiderable amount of bleeding. Thus the spleen was fixed in nearly its normal position, below the costal arch, its lower pole in a firm pouch, its hilus at the peritoneum, and secured to the tenth rib. The peritoneal sutures were of cat-gut, the fixation sutures of silk-worm gut.

The advantages claimed, as against Rydygier's procedure are as follows: (1) The little danger attached; (2) the simple technique; (3) the short time required for operation; (4) the avoidance of manipulation in the abdominal cavity; (5) the fixation to immovable parts; (6) the minimum danger of hernia.

EXCISION OF VAS DEFERENS IN CASE OF PROSTATIC HYPERTROPHY.

Pavone (Policlinic, '95, 77) experimented on dogs, used one sided and double castration, as well as single, and bilateral ligation and excision of the vasa deferentia. The animals were killed at periods of from a few weeks to three months following operation, and their prostates examined macro- and microscopically. Pronounced atrophy of the organ was found in all cases.

As a result of experiments, the author, in cases of prostatic hypertrophy recommends excision of the vas rather than castration, purely on account of the mutilation involved in the latter.

TEMPORARY CONSTRICTION OF THE EXTERNAL CAROTID.

Senger (*Deutsche med. Wochenschrift*, '95, 22) experimented upon rabbits and found that the external carotid could be constricted for two or three hours without ill effects. In two of his experiments there resulted slight paralysis of the hind extremities, but this was transient in character. As a result of his experiments the author used constriction in a case of carcinoma requiring excision of the upper jaw. Accordingly, the patient, a woman in very bad condition, was anesthetized and the external carotid cut down upon. This being exposed, a piece of iodoform gauze was wrapped around it, the gauze, in its turn, being surrounded by an elastic band about half a centimetre broad. This elastic band was left loose and the cervical region covered with gauze.

During the operation the rubber band was tightened until the peripheral pulsation in the artery ceased. Hemorrhage was relatively very slight and altogether venous in character, with the one exception of the angular artery, this last requiring ligation. Following resection the wound was thoroughly tamponned and constriction removed from the external carotid. Sutures were introduced and the wound dressed. Union was complete in two weeks.

The author suggested that this method of constriction might be used with advantage in other arteries as well as in the external carotid.

OBSTETRICS.

BY CHARLES JEWETT M.D., SC.D.

THE BACTERIA OF THE VAGINA IN THE NEW-BORN.

Vahle (*Zeitschr. für Geb. und Gyn.*, Vol. xxxii). On account of the great significance attached at the present time to the vaginal secretion and its bacteriological contents in women during and just before the puerperium, the following series of examinations has been made upon new-born female children for the purpose of determining the presence or absence of bacteria.

The first extensive investigations upon this subject were re-

ported by Stroganoff (Petersburger Dissertation, 1893). He examined forty-four girls at intervals of from five minutes to several days after their birth. The conclusions are that in the large majority of cases bacteria exist in the vagina within five hours after birth. The first bath is a powerful factor in the introduction of germs. The reaction of the secretion is acid. Pathogenic organisms were not found in any case.

Vahle found that the best method to remove the culture from the vagina was through a slender glass funnel, which was sterilized and passed into the vagina. In most cases bouillon, gelatine and agar cultures were made in each case as well as cover-glass preparations. Such bacteria as were thought to be pathogenic were still further examined by inoculating animals; white mice, rabbits and guinea pigs were used.

The paper gives detailed accounts of the seventy-five cases which were thus carefully examined. Staphylococci, streptococci, *B. commune coli*, and a great variety of named and un-named, motile, and stable forms of bacteria were found. The number of bacteria in a given case was in every instance a very small one.

Micro-organisms were present in forty-nine cases; twenty-seven were bacilli; seventeen non-motile; ten motile. Especially common was a non-motile, short, plump, often oscillating bacillus with rounded ends, usually occurring in pairs.

A number of other forms which were found are described at some length in the article.

The principal conclusions from the investigation are:

1. The vagina remains sterile for at least two hours after birth.

From this time until the third day micro-organisms may or may not be detected; the number of cases where bacteria are found gradually increases as time goes on, and the bacteria free secretions diminish. After the third day micro-organisms are always present in the secretion of the vagina.

2. Pathogenic organisms are relatively frequent; staphylococcus pyogenes albus and aureus are observed in 4 per cent. of the cases; streptococci in 14.6 per cent. of the cases.

OBSTETRIC ANTISEPSIS.

G. Lefour (Nouv. Arch. d'Obstet. et de Gyn., X Anée, No. 9,) contributes the following account of the antiseptic practice in his lying-in service at Bordeaux. On admission the pregnant woman is conducted to a dressing-room where she receives an entire change of clothing. From the dressing-room she passes immediately to a bath-room, which is reserved for the use of entering

patients. She is carefully bathed in water containing carbonate of sodium, and is then dressed in a hospital suit of prescribed pattern which has been sterilized. She is now received in the dormitory for pregnant women, to await confinement. Here the routine is as follows: Each patient receives a full bath two or three times weekly. The baths are alternately of sublimate and of sodium carbonate solution. Every morning the women are taken to a special room called the *Salle d' Examen*, when they are subjected to a thorough verbal and physical examination. The toilet of the external genitals is especially rigid and is managed by the midwife pupils. After a careful soap and water scrubbing the parts are washed well with a warm sublimate solution, 4.1000. Since the adoption of the present antiseptic regime the mortality and morbidity have been greatly reduced.

A boric acid dressing is regularly worn over the breasts of all the nursing women. Only rarely is a case of mammary lymphangitis observed, and then only in women who have entered too late to receive the benefit of the preliminary skin disinfection.

The beneficial influence of the preventive antiseptics was most remarkable. Under the plan at first pursued, however, erythematous eruptions occurred in practically all the cases. The seat of the eruptive disease was most frequently the hairy regions and those abounding in sudoriparous glands. The irritating effects of the sublimate solution were attributed to the chemical changes which took place in consequence of the presence of ammonium chloride in the solution. After substituting tartaric acid for the ammonium salt no skin lesions were observed from the use of the mercurial disinfection.

SALINE INJECTIONS.

Audebert (*Ibid*) has used subcutaneous injections of artificial serum in obstetric cases: (1) after severe hemorrhages; (2) in eclampsia; (3) in various forms of auto-intoxication. The results have been exceedingly satisfactory. The injections, too, were useful in infants prematurely born, but of no value in asphyxia. The apparatus employed by Audebert is wholly of glass, and consequently easily sterilized. The pressure is obtained by gravity. From 300 to 1000 cc. of serum are injected in case of adults; for children the quantity is from 10 to 30 cc. The seat of injection is preferably the flanks or the retro-trochanteric groove. The only accidents observed were moderate pain, occasionally mild cerebral excitation and slight rise of temperature. Cordes believes that the injections serve not only to augment the total volume of

blood but that they promote hematosiis. Tarnier thinks the pressure used should bear definite relations to the intra vascular tension of the subject.

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GYNECOLOGY.

BY WALTER B. CHASE, M.D.

BICYCLING FOR WOMEN AND BICYCLE SADDLES FOR WOMEN.

James R. Chadwick (Boston Med. and Surg. Jour., CXXXII., No. 24) states in regard to the present form of bicycle saddles for women that no effort has as yet been made to adapt the saddle to a woman's anatomy. The bicycle saddle for men seems to have been modeled upon the saddle that was found suitable for men riding upon a horse, being merely reduced in most of its dimensions.

This has answered most of the requirements though often found to strike against the prostate gland or the pubic arch. When women began to ride, they were given the same saddle regardless of the fact that behind the pubic bones are the external genital organs, so prominent as inevitably to rest upon the anterior projection of the saddle.

The result has been that women have generally had great difficulty in having the saddle so adjusted as to be rendered comfortable; in other words, to avoid pressing unduly upon the vulva. The author continues:

"My inquiries have not enabled me to form definite conclusions, but have made evident the facts that: (1) the saddles in most use require many adjustments to be comfortable to the generality of female riders; (2) that some of the saddles are absolutely unfitted for the use of women; (3) that the teachers have no definite ideas by which they can adapt the saddle to the use of women.

"Now let us consider briefly in what respect the saddle needs alteration to fit it to the anatomy of woman. In the first place, a woman's pelvis is broader than a man's and the tuberosities of the ischia are further apart in woman than in man, consequently the width of the rear portion of the seat needs to be greater. No such provision has been made. This is a matter, however, easily corrected when attention is called to it. Secondly, the anterior projection of the saddle must be tilted downward so that it will

not strike against the vulva. This, however, requires the most delicate adjustment, for if the saddle is tilted too far, the slope of the seat causes the rider to slide forward so as to rest almost entirely upon the anterior projection, and so defeat the object of the tilting. Again, the seat may be shifted backward and forward upon the frame without tilting. When shifted backward, the action of the leg upon the treadle tends to push the body backward, and thus to insure that the ischia shall rest upon the saddle; but in this location the muscular action of the legs is less effective, which renders the work of propulsion greater.

“From the foregoing it is evident that the adjustment of the present form of saddle to women is attended with great difficulty. The question, therefore, arises, is the anterior projection of the saddle essential? I cannot pretend to answer this question, but it seems to me that experiments should be made to dispense with this feature of the present saddle if possible. The problem is, whether without the anterior projection the seat of the rider would be sufficiently secure. The trouble is that when the leg is straightened and the treadle at the lower point of its circuit, the thickness of the thigh tends, by pressing against the anterior margin of an oval saddle, either to lift the tuberosities of the ischia from the saddle or to drag them forward, so that after a jounce they will not descend upon their proper place, and a secure seat will thereby be lost or the skin be chafed at the junction of the thigh and the ischiatic region. The feasibility of such a saddle as this can only be determined by experiment, and should be made before women are generally allowed to ride the bicycle.

“In conclusion, I would express the opinion that bicycling is a most desirable form of recreation and exercise for women, and that my only purpose in bringing it up for discussion on this occasion is to stimulate the inventive minds of its advocates to devise a saddle which shall not inflict local injury or discomfort upon women riders.”

DRAINING OF THE PERITONEAL CAVITY.

Gubaroff (*Arch. f. Gyn.*, XLIX., No 2, p. 242) believes the indications for draining the peritoneal cavity are given by Christopher Martin, namely:

(1) When peritonitis or ascites is present.

(2) If the peritoneum has been brought in contact with feces, urine, pus, or decomposed contents of a tumor during the operation.

(3) After irrigating the abdominal cavity.

(4) When extensive adhesions have been divided.

(5) When parenchymatous hemorrhage takes place from any cause.

(6) When one suspects that intestines or bladder may be injured.

Indications 1 and 3 need modifying somewhat, in that it is not necessary to drain after opening the abdomen for simple ascites nor after irrigation with normal salt-solution.

The two drains in use are tubes of glass or rubber and absorbent material. The tubes are very popular in England. The secretion, as it collects, is drawn out with a syringe or sponged out by a bit of gauze. The absorbent drains are usually made of gauze or lampwicking, or tubes filled with some porous material.

The author believes that the tubular drains are of doubtful utility, and the gauze drains of Mikulicz should be used almost exclusively, and when possible should be passed to the vagina.

The indication for removing the drain depends upon the presence or absence of blood serum. If the serum which comes away is perfectly colorless and there are no general symptoms, the drain may be removed after twenty-four hours and the abdominal opening closed by a suture inserted at the time of the operation. In these cases the course is the same as those in which no drainage has been used. Another indication for removing the drain is the presence of a thick, sticky, serous discharge, containing neither blood nor pus, and not exceeding 30 to 50 gms. in 12 hours.

In those cases in which one expects complication it is well to put in a strip of iodoform gauze after removing the drain and gradually diminish the quantity of the gauze as the wound heals. In suppurative cases the above procedure is always necessary.

BURGRAF VS. EMERY AND BOYDEN.

The suit against Health Commissioner Emery and Vaccinator Boyden for \$5,000, claimed for the death of a child from tetanus after vaccination, was dismissed by Judge Van Nyck as to Dr. Emery and resulted in a disagreement of the jury as to Dr. Boyden. The able charge of the Judge we shall reproduce in the March number of the *Journal*.

CORRESPONDENCE.

PRACTICAL OBSTETRICS IN LONG ISLAND COLLEGE HOSPITAL.

EDITORS OF THE BROOKLYN MEDICAL JOURNAL : Dr. H. McM. Painter, of the Lying-in Hospital of New York, recently read a paper before the N. Y. State Medical Association which has attracted no little comment from the medical press. In it he emphasizes the importance of practical teaching in obstetrics, and justly laments the scant attention paid to it in American medical colleges. With these sentiments Brooklyn is heartily in sympathy. To one of Dr. P.'s statements, however, I must take exception. He says : " The Sloane Maternity and the Lying-in Hospital of New York are the only institutions in the country in which practical obstetrics is regularly taught." Our esteemed colleague will be interested to know that for nearly fifteen years manikin and bedside instruction have been prominent features in the obstetric teaching at the Long Island College Hospital. Juniors and seniors are drilled at the manikin by a large corps of trained instructors. The methods of diagnosis by external and internal examination and the different manual and instrumental operations are learned by actual practice. After becoming well grounded in this part of the work the student is admitted to the wards of the Lying-in Department. Here the physical signs of pregnancy and the methods of diagnosis by the abdominal examination are taught by the bedside. With these the student becomes familiar by examining for himself under guidance of one of the instructors. The course and management of the puerperium are, in so far as practicable, studied in like manner. Before he graduates he has witnessed from fifteen to twenty labors, and, when safety permitted, has taken part in the conduct of the same. During his attendance in the wards, he is systematically quizzed by one of the teaching staff on the facts presented, and on the obstetric methods and the reasons therefor.

This teaching is supplemented to some extent in the outpatient service, in which the observation and treatment of the case are followed and partly conducted by the student under the immediate direction of a member of the staff.

Our experience, I am glad to say, bears out all Dr. Painter has alleged for the value of this kind of teaching.

CHAS. JEWETT.

HISTORICAL DEPARTMENT.

JOHN VAN NESS, M.D.

Dr. John Van Ness died suddenly of Angina Pectoris at his residence, 960 Bedford avenue, on Tuesday, September 17th, of the present year.

He was born in the town of Northville, this State, August 23, 1818, and came of a famous family. His father, General Henry Van Ness, was a member of Congress from Rensselaer and Columbia counties under President Jefferson's Administration. He was also at one time Mayor of the City of Washington, and was appointed a Major-General by President Madison. An uncle of the deceased was United States District Attorney of Vermont and also Collector of Customs of that port. William P. Van Ness, another uncle, was one of the judges of the United States District Courts of New York.

Dr. Van Ness' great-grandfather came from Holland during the French war of 1750 and married a Miss Van Wart, whose nephew, Isaac Van Wart, is known in history as one of the captors of "the spy Major André."

Through his mother, Martha Hammond, Dr. Van Ness descended from a distinguished family of English extraction. He received his early education in the district schools and at the Academy of Northville, and then, a young man, came to this city, and was made a teacher in the old Brooklyn Institute at a time when it numbered among its pupils many who to-day enjoy considerable distinction in various walks of life.

In 1838 he married Charlotte Rebecca Adams, of Norwich, Conn., by whom he had five children, two of whom survive him.

In 1839 he commenced the study of medicine under the supervision of Dr. Purcell Cook, of this city, and attended medical lectures at the New York University from 1843 until 1846, when he opened an office at the corner of Pearl and Tillary streets, and engaged in the practice of medicine.

Meeting with considerable success, he relinquished his position in the Brooklyn Institute, and devoted his whole attention to his new calling. In 1849, he moved his office to Franklin, near Myrtle avenue, then a suburban district of the city, and at about this time he became one of the founders of the DeKalb Avenue Methodist Episcopal Church, of which he ever remained an active member.

In 1852, the Medical Society of the County of Kings conferred on him a license to practice medicine in accordance with the power with which it had been vested by legislative enactment, and in 1867 the regents of the University of the State of New York conferred on him the degree of "Doctor in Medicine" on the recommendation of the Medical Society of the State of New York.

Dr. Van Ness became an active member of this Society in 1868, and remained as such until the day of his death, enjoying the distinction of being one of the oldest active practitioners in Brooklyn, as well as the only remaining member of the Medical Society of the County of Kings, who had received his medical license to practice from that body. In 1873, he moved his office to Bedford, near Willoughby avenue, where in a short time he met with great misfortunes; first, in the death of his only son who was lost at sea, and a little while later in the death of his wife, a most estimable woman.

In 1887 he married Emma Ruth Morse, of this city, who survives him.

Dr. Van Ness possessed more than ordinary ability as an obstetrician, while as a general practitioner he was regarded with respect by his fellow physicians. A kindly nature, a uniform and genial temperament, always ready to serve humanity with or without compensation, he was distinguished as a humanitarian in the truest sense. As to his private life—it was simply pure.

A Christian, a gentleman always, his epitaph may fitly read :

A man of God, a man of men,
A man of dignity and grace,
A man whose path in medicine
Found honor in his pace.

GEORGE A. EVANS, M.D.,	} Committee.
WALTER B. CHASE, M.D.,	
NATHANIEL MATSON, M.D.,	

S. FLEET SPEIR.

Dr. S. Fleet Speir died at his late residence, 162 Montague street, on December 18, 1895.

Dr. Speir had been an active Brooklyn practitioner of medicine and a member of the Medical Society of the County of Kings since 1863.

He was a native of this city, and except the time spent in

Europe and in the army, had passed his life of fifty-seven years among us.

His education was received at the Polytechnic Institute, of this city, and his medical degree at the University of New York, in 1860, where he received the Mott gold medal and the Van Buren prize.

Drs. Robt. Ormiston, W. H. Bates, and E. W. Wright have been appointed an obituary committee, and they will prepare a biographical sketch for publication in a later number of the *JOURNAL*.

RICHARD L. VAN KLEEK, M.D.

Dr. Richard L. Van Kleek, of Gravesend, died of paralysis at his late residence, on December 18th, at the age of fifty-four.

Dr. Van Kleek graduated in medicine at the University of New York, in 1863, and after serving a year on the staff of the Kings County Hospital, he began practice in Gravesend, where he continued until his death.

He became a member of the Medical Society of the County of Kings in 1872.

Dr. Homer L. Bartlett has been appointed chairman of an obituary committee to prepare a suitable biographical sketch.

We clip the two following notices from the *American Therapist*, an enterprising journal published across the bridge.

Dr. Robert Boocock, a homeopathic physician in the Twenty-ninth Ward in Brooklyn, was very much surprised to learn, a week after the election, that he had been a candidate for Coroner on the Populist ticket, and had polled 309 out of the 171,141 ballots cast. He had never been asked to accept such a nomination, and had never been notified that it had been tendered him. Those of his friends who knew about it took it for granted that he did, and, as it happened, said nothing to him about it. Until the other day he was not aware of a grave responsibility resting on him as a candidate—the duty of filing a certificate of his election expenses with the County Clerk within ten days after election.

House Surgeon John H. Schall was at work on a bacteriological specimen in the laboratory of the Homeopathic Hospital in Brooklyn the other day, when a mixture in an apparatus he was using exploded with a report which was heard beyond the walls of the building. Dr. Schall was severely, but not dangerously burned about his head, hands, and body.

Drs. J. S. Prout, Arthur Mathewson, and H. A. Alderton have been appointed an obituary committee for Dr. Richmond Lennox, whose death was noticed in a late number of the *JOURNAL*.

DISPENSARIES, HOSPITALS, AND MEDICAL SOCIETIES OF KINGS COUNTY, 1830-1860.

BY WILLIAM SCHROEDER, M.D.

The town of Brooklyn in 1830 had a population of 15,295. Four years thereafter it was incorporated as a city. The Medical Society of the County of Kings in 1830 had nineteen members upon its roll, and the town directory of that year indicates that there were about ten physicians engaged in the practice of medicine who were not connected with the Medical Society.

On the 8th day of February, 1830, the first Dispensary in Brooklyn was organized at 168 Fulton street, under the name of

THE BROOKLYN DISPENSARY.

In 1833 the Dispensary removed to the corner of Jay and Sands streets, and must have been discontinued about this time.

The attending physicians were : Drs. J. Sullivan Thorne and W. A. Clark. Consulting physician, Matthew Wendell.

CITY HOSPITAL, 1839-1840.

Under this name, and about the time above indicated, this hospital was organized, being located on Adams street near Johnson. Its staff at that time included :

Theodore F. King, M.D., President 1840-1842.

John Sullivan Thorne, M.D., Secretary.

Attending physicians :

Purcell Cook, M.D.

George Marvin, M.D.

Samuel Boyd, M.D.

Theodore L. Mason, M.D., was President from 1842 to 1844, and was succeeded by John Sullivan Thorne, M.D., as President from 1844 to 1845.

The attending physicians at this time were :

George Ball, M.D.

Theo. F. King, M.D.

A. N. Garrison, M.D.

This hospital was incorporated May 8th, 1845, under the name of

BROOKLYN CITY HOSPITAL.

It was then removed to Hudson street near Lafayette avenue. The attending physicians at this time were :

Henry J. Cullen, M.D.

Lucius Hyde, M.D.
Purcell Cook, M.D.
C. L. Mitchell, M.D.
Christ R. McClellan, M.D.

Attending surgeons :

Theo. L. Mason, M.D.
W. G. Hunt, M.D.
F. W. Hurd, M.D.
Daniel Ayres, M.D.

In 1850 the hospital removed to Hudson avenue, then "Jackson street," near Lafayette avenue.

Attending physicians :

Henry J. Cullen, M.D.
James Crane, Jr., M.D.
J. Sullivan Thorne, M.D.
John W. Corson, M.D.

Attending surgeons :

William G. Hunt, M.D.
Daniel Ayres, M.D.
John Cochran, M.D.
James M. Minor, M.D.

1854-'55. At this time we find the hospital at Raymond street near DeKalb avenue, where it is situated at the present time.

Attending physicians :

H. S. Smith, M.D.
James Crane, Jr., M.D.
D. S. Landon, M.D.
J. Sullivan Thorne, M.D.
Henry J. Cullen, M.D.

Attending surgeons :

DeWitt C. Enos, M.D.
D. E. Kissam, M.D.
John Cochran, M.D.
James M. Minor, M.D.

1857-'58. Visiting surgeons :

DeWitt C. Enos, M.D.
Daniel E. Kissam, M.D.
James M. Minor, M.D.
Joseph C. Hutchison, M.D.

Visiting physicians :

James Crane, M.D.

Dillon S. Landon, M.D.

Horatio S. Smith, M.D.

E. Krackowizer, M.D.

1860. Visiting surgeons :

James M. Minor, M.D.

DeWitt C. Enos, M.D.

Daniel E. Kissam, M.D.

Joseph C. Hutchison, M.D.

George Cochran, M.D.

Visiting physicians :

James Crane, M.D.

D. S. Landon, M.D.

H. S. Smith, M.D.

A. Nelson Bell, M.D.

Chas. J. Seymour, M.D.

The hospital is still in existence at Raymond street and De-Kalb avenue.

BROOKLYN DISPENSARY ORGANIZED 1846.

Jackson House, Hudson street, near Lafayette avenue.

Attending physicians :

J. D. Trask, M.D.

Bradley Parker, M.D.

C. L. Mitchell, M.D.

James Crane, Jr., M.D.

J. H. Henry, M.D.

Lucius Hyde, M.D.

L. K. Brown, M.D.

District physicians :

J. D. Ladd, M.D.

E. N. Chapman, M.D.

W. Blackwood, M.D.

T. A. Wade, M.D.

A. V. Lesley, M.D.

Wm. Swift, M.D.

1849. Daniel Brooks, M.D.

H. S. Smith, M.D.

D. E. Kissam, M.D.

Dr. Beers.

1851-'52. Removed to the basement of the City Hall, but were unable to remain there any length of time, as it was understood that the city officials were afraid of contagious disease. The

officers secured the back room of Bailey's drug store at 269 Washington street.

Attending physicians and surgeons :

John D. Ladd, M.D.
William H. Gardner, M.D.
D. E. Kissam, M.D.
A. Otterson, M.D.
J. C. Hutchison, M.D.

1855. At this time we find the dispensary located at 107 or 109 Pineapple street.

Attending physicians and surgeons :

James Hebborn, M.D.
J. H. Catlin, M.D.
J. Blackmore, M.D.
John Ball, M.D.
E. A. Whaley, M.D.
Alex. Little, M.D.
Jos. B. Jones, M.D.

Consulting physicians and Surgeons :

H. S. Smith, M.D.
D. E. Kissam, M.D.
L. C. McPhail, M.D.

1858. About this time the name was changed to that of Brooklyn Dispensary and Eye and Ear Infirmary. Its staff at this time consisted of the following :

John Ball, M.D., President.
Jos. B. Jones, M.D., General Surgery.
John T. Conkling, M.D., Diseases of Females.
John A. Brodie, M.D., Children, Skin and Vaccination.
William Law, M.D., Heart, Throat and Lungs.
William Otterson, M.D., Head and Digestive Organs.
R. M. Deering, Apothecary and Dentist.

1860. Attending surgeons :

Jos. B. Jones, M.D.
W. F. Swalm, M.D.

Attending physicians :

John Ball, M.D.
William Law, M.D.
Robert Ormiston, M.D.

The dispensary is still in existence at No. 11 Tillary street.

KINGS COUNTY HOSPITAL.

The early history of this institution appears to be intimately

connected with the Brooklyn Almshouse. On April 9, 1832, the poorhouse at Flatbush was opened, and John B. Zabriskie, M.D. was appointed as physician, at a salary of \$70 per year. In 1834 Dr. J. B. Zabriskie was re-appointed as physician. In 1838 the County Hospital and Lunatic Asylum were opened.

On February 8, 1848, Dr. J. B. Zabriskie died. He appears to have been the only physician connected with the above institution up to this date.

On March 5, 1848, F. M. Ingraham, M.D., and Philip O. Hyatt, M.D., were appointed in place of Dr. Zabriskie.

March 30, 1849, the hospital at the Penitentiary was opened and T. Anderson Wade, M.D., was appointed physician. Dr. Wade agreed to treat all prisoners and furnish the necessary medicine for \$12 per month, which was accepted. Dr. Wade's salary was fixed in 1852 at \$250 per annum. Dr. J. L. Zabriskie was appointed physician at the Penitentiary in 1859.

In 1854 it became known to the Board of Superintendents that a bill was pending before the Legislature directing that bodies of persons who may die in the poorhouse be delivered to medical schools for the purpose of dissection.

The bill was denounced as a monstrous outrage, its provisions being declared barbarous.

In 1854 Dr. Thomas Turner was physician to the hospital, and Dr. J. A. Blanchard physician to the Lunatic Asylum. Dr. Blanchard was Superintendent from 1875 to 1877.

In 1856 Dr. Robert B. Baiseley was resident physician of the Lunatic Asylum.

1857 Edwin R. Chapin, M.D. was elected resident physician of the County Hospital.

In 1859 Dr. E. R. Chapin became physician to the Lunatic Asylum, which position he resigned in 1871.

Dr. Thomas Turner died in 1865, and his successor was Dr. R. Cresson Stiles, who resigned in 1866. Dr. Stiles was followed by Dr. Teunis Schenck.

WILLIAMSBURGH DISPENSARY.

Organized January, 1851. Opened September 1, 1851. Located at the corner of Fifth and South First streets.

The first President was Samuel Groves.

The attending physicians were :

John A. Brady, M.D.

Nelson L. North, M.D.

Chas. Holzhauer, M.D.

Consulting physicians :

Sidney Wade, M.D.
Orson H. Smith, M.D.

Consulting surgeons :

A. J. Berry, M.D.
F. M. Lovett, M.D.

Visiting physicians :

L. N. Palmer, M.D.
C. H. Schapps, M.D.
J. J. Bagley, M.D.

This dispensary is still in existence under the name of the Brooklyn (E. D.) Dispensary and Hospital.

BROOKLYN GERMAN GENERAL DISPENSARY.

From 1857 to 1858, at 145 Court street.

Consulting physicians :

Edward Macbert, M.D.
Gustav Braeunlich, M.D.

Consulting surgeons :

Louis Bauer, M.D.
William Arming, M.D.

Resident physician :

Hermann Zundt, M.D.
Mr. Hermann, Cupper and Leecher.

BROOKLYN CENTRAL DISPENSARY.

This dispensary was opened to the public in 1855. It was located at 173 Fulton street.

The first President was J. Sullivan Thorne, M.D.

Attending physicians and surgeons :

J. H. H. Burge.
Nelson S. Drake.
William H. Van Duyne.
Arnold Hallett.
Thomas H. Green.
T. H. Catlin.

Consulting surgeons :

James M. Minor, M.D.
C. E. Isaacs, M.D.

Consulting physicians :

James H. Hewey, M.D.
Jos. C. Hutchison, M.D.

In 1858 this dispensary was located at 5 Flatbush avenue.

From that time to 1860 there seems to have been a number of changes among the physicians. In 1860 we find them to be as follows :

J. H. H. Burge, M.D.
John Hill, M.D.
S. C. Gregg, M.D. .
W. H. Gardner, M.D.
J. Wilson, M.D.

This dispensary is at present situated at No. 29 Third avenue.

THE LONG ISLAND COLLEGE HOSPITAL.

This college and hospital will undoubtedly, in the near future, assume a position among medical colleges second to none in this country. The additions to its curriculum ; the increasing number of students ; and the growing interest in the welfare of the institution which is exhibited by our citizens, all indicate that the Long Island College Hospital has before it a career of unlimited usefulness. The present outlook causes us to believe that the brightest pages in its history are yet to be written. The writer can scarcely believe the testimony of his own senses as he notes the advances made by this institution during the short time he has been in active practice. While congratulating ourselves upon the splendid prospects the future appears to have in store for the Long Island College Hospital, let us glance backward and note a few facts in the inception and early history of this institution.

During the year 1857 a number of German physicians in general practice in the sixth and tenth wards of the city of Brooklyn, organized what was known as the Brooklyn German General Dispensary. This dispensary was situated at 145 or 147 Court street, between Pacific street and Atlantic avenue. Prominently connected with this dispensary were the following doctors:

Gustav Braeunle, residing at 285 Henry street.

Carl Aug. Louis Bauer, residing at 167 Court street.

William Arming, residing at 75 Court street.

Edward Maebert, residing at 109 Union street.

Herman Zundt, residing at 42 Dean street.

The intention of these gentlemen was to organize a large German hospital, as at this time the population of the sixth ward consisted largely of Germans. Nothing definite came of this idea, for we find that shortly afterward they joined with Drs. John Byrne of 202 Clinton street, Daniel Ayres of 156 Montague street, and William H. Dudley of 201 Henry street, in the organization of what was then known as the St. John's Hospital. On

November 5, 1857, this hospital occupied the premises at 145 or 147 Court street, where it remained until the spring of 1858.

The "Perry Mansion" on Henry street being for sale, subscriptions were solicited from the citizens of Brooklyn for the purpose of purchasing this property. The effort proving successful and the property having been purchased, application was made to the Legislature for a charter, which was granted in 1858.

Drs. Braeunlich and Bauer deserve special mention for the interest manifested by them in the institution and for the work which they accomplished at this time.

The reason for the change of name from St. John's Hospital to that of the Long Island College Hospital is unknown to the writer, but it was under the latter name that the institution received its charter and opened the hospital in the spring of 1858, on the site where it now stands, and where we hope it may stand for ages to come. The following is taken from the Brooklyn City Directory of 1858-'59:

LONG ISLAND COLLEGE HOSPITAL OF THE CITY OF BROOKLYN.

Henry street between Pacific and Amity.

Board of Regents :

Hon. Samuel Sloan, President.
Samuel W. Slocum, Esq., Vice-president.
C. Nestell Bovee, Esq., Secretary.
Cornelius Dever, Esq., Treasurer.
Hon. Samuel Sloan.
Samuel W. Slocum.
Henry Messenger.
C. N. Bovee.
L. K. Miller.
Jaques Cortelyou.
A. B. Baylis.
R. L. Delisser.
Cornelius Dever.
Daniel Chauncey.
J. T. Moore.
Geo. F. Thomas.
Joseph Hegeman.
J. S. Brownson.
N. E. James.
Theodore Polhemus.
Charles Christmas.
Nicholas Luqueer.

Eugene O'Sullivan.
 Harold Dollner.
 Henry F. Vail.
 R. H. Berdell.
 L. B. Wyman.
 J. J. Van Nostrand.
 Samuel Smith.

Members of the council :

Theo. L. Mason, M.D.
 C. L. Mitchell, M.D.
 William H. Dudley, M.D.
 J. H. Henry, M.D.

Physicians :

John Byrne, M.D.
 E. N. Chapman, M.D.
 Gustav Braeunlich, M.D.

Surgeons :

Daniel Ayres, M.D.
 Louis Bauer, M.D.

Adjunct physicians :

R. S. Olmstead, M.D.
 G. D. Ayres, M.D.
 W. H. Davol, M.D.

Adjunct surgeons :

E. A. Whaley, M.D.
 D. A. Dodge, M.D.
 J. G. Johnson, M.D.

Apothecary :

E. S. Fougere.

MEDICAL SOCIETIES.

The first medical society—independent of the Medical Society of the County of Kings—was organized in 1852, and was known as the Medical Association of the Eastern District.

Among the physicians who were connected with this society we find the following :

C. H. Schapps, M.D., who was President in 1852-'55.
 Ernest Krackowizer, M.D.
 C. Macfarlan, M.D.
 Jos. Creamer, M.D.
 James S. Hawley, M.D.
 Carl Wittman, M.D.
 Geo. W. Baker, M.D.

John Walsh, M.D.
 J. J. Acheson, M.D.
 Nelson L. North, Sr., M.D.
 E. N. Colt, Jr., M.D.

This society continued until 1882, when it went out of existence.

On February 5, 1863, the Medical Association of the Eastern District of Brooklyn was organized.

MEDICAL CHIRURGICAL SOCIETY.

Instituted at Brooklyn in 1857.

Active among its membership were the following well-known physicians :

Andrew Otterson, M.D., President from 1857 to 1859.
 John Ball, M.D.
 Joseph B. Jones, M.D., President in 1860.
 E. N. Chapman, M.D.
 Daniel A. Dodge, M.D.
 J. H. H. Burge, M.D., President from 1864 to 1865.
 Daniel Ayres, M.D., President from 1861 to 1863.
 J. C. Halsey, M.D.
 Jos. E. Clark, M.D.
 Henry J. Cullen, M.D., President in 1866.
 William Law, Jr., M.D.
 A. N. Bell, M.D.
 John Byrne, M.D.
 W. E. Mulhallon, M.D.
 James Crane, Jr.
 U. Palmedo.
 Geo. I. Bennet.
 A. Moore.
 J. P. Colgan, Sr.
 Charles C. Isaacs.
 J. P. Colgan, Jr.
 William Otterson.
 G. D. Ayres.
 W. Mills.
 Thomas P. Morris.
 H. C. Simms.
 DeWitt C. Enos.

This society was discontinued in 1866.

BROOKLYN MEDICAL SOCIETY—1856—1857.

This society met at the Brooklyn Institute on Washington

street, but very little is known regarding it. The physicians connected with it were :

Andrew Otterson, M.D., President from 1856 to 1857.

John Ball, M.D.

A. N. Bell, M.D.

Jos. E. Clark, M.D.

Jos. B. Jones, M.D.

John Byrne, M.D.

On August 21, 1846, a special meeting of the Medical Society County of Kings, was called to consider the propriety of establishing a Dispensary in the city of Brooklyn. This call was signed by the following members :

Drs. Robert McMillan.

John F. Morse.

J. C. Halsey.

Sam. J. Osborn.

William Swift.

David F. Atwater.

T. A. Wade.

Purcell Cooke.

J. M. Moriarty.

A. Otterson.

Wm. C. Betts.

Daniel Ayres.

F. W. Hurd.

Geo. I. Bennet.

A. Van Pelt.

The committee appointed at this meeting reported on September 14, 1846, that the matter had been presented to the trustees of the Brooklyn City Hospital, and that a committee had been appointed by them to consider the subject.

Committee from the medical society :

Drs. Sam. J. Osborn.

Henry J. Cullen.

John F. Morse.

Jno. L. Thorne.

Theo. L. Mason.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.

AN AMERICAN TEXT-BOOK OF OBSTETRICS FOR PRACTITIONERS AND STUDENTS. Richard C. Norris, M.D., Editor; Robert L. Dickinson, M.D., Art Editor. With nearly 900 colored and half-tone illustrations. Pp. 1-1009. Philadelphia: W. B. Saunders, 1895.

The preface to this admirable volume explicitly states that it is intended to serve as a "standard teaching-work for students, and a guide to practitioners." From this point of view it is perhaps right that a reviewer should be chosen who does incidental obstetrics in the course of a purely medical practice, and who can therefore better judge of its merits as a book for study and reference than one who is a specialist in this line.

This volume contains about one thousand pages. It is the product of fifteen obstetricians, representing the teaching centers of New York, Brooklyn, Philadelphia, Baltimore, Cincinnati, Chicago, St. Louis, Boston, and Montreal.

The arrangement and classification are excellent, beginning with a very clear and complete description of the anatomy of the generative organs by G. A. Piersol, who, with C. D. Palmer, deals also with the physiology and diagnosis of pregnancy. The pathology of pregnancy receives attention from such accomplished writers as E. P. Davis, H. A. Kelly, J. H. Etheridge, and the late C. W. Earle. The phenomena and clinical course of normal labor is handled by R. L. Dickinson, and the conduct of normal labor by C. Jewett.

The mechanism of labor, and the management of the various positions and presentations receives a complete exposition by E. Reynolds. Dystocia, from maternal and foetal deformities, beautifully illustrated, is dealt with by B. C. Hirst, who is an authority on this subject, while to T. Parvin and H. Schwartz is committed the subject of dystocia from accidents, diseases and hæmorrhages. Jewett is again welcomed in describing the physiology, diagnosis and management of the puerperium, while its pathology has been, very properly, reserved by the editor, R. C. Norris, with the exception of a section upon puerperal infection by H. J. Garrigues, whose work in this line has been of great importance. The portions dealing with the physiology and pathology of the infant have been well and fully written by Earle and Etheridge.

Under the head of obstetric surgery, instrumental operations are handled by J. C. Cameron, with the exception of symphyseotomy by Jewett; manual operations (versions) by Dickinson, and cœliotomy by Hirst.

Space is manifestly inadequate for a detailed review, which would be desirable, but certain general points are well worthy of notice. The first thing which strikes the purchaser is the abundance and beauty, as well as the great usefulness of the illustrations. Quite evidently they represent an enormous amount of work, and rare artistic ability, backed up by accurate

scientific knowledge on the part of the Art Editor, Dr. R. L. Dickinson. It is difficult to adequately express a sufficiently high appreciation of this department of the volume. It is a standard by which future American books, of the same calibre, must be judged, but unless the same services are at command the comparison will be apt to prove odious.

With regard to the letter press, the editor, Dr. Richard C. Norris, is to be congratulated upon having made a satisfactory apportionment of space. Books written in collaboration possess certain characteristics, some of which are undesirable. There are possibilities of considerable overlapping with consequent repetition, and if a writer has before published a work upon the subject assigned him, the tendency to duplicate previous matter and arrangement is hard to resist. In the present case these faults have been reduced to a minimum, and the result has no shadow of tedium nor lack of interest.

There is of course some unevenness in the quality of the different articles. In this connection it is a matter of local pride to see how well the Brooklyn representatives have acquitted themselves. The clean-cut style of Dr. Jewett, with its orderly, logical and complete arrangement of facts, is known to us all, as well as the characteristically graphic and interesting manner in which Dr. Dickinson deals with the subjects allotted to him. In neither is there redundancy in words, or obscurity in statement, both of which, it is a matter for regret, are found in the article upon hæmorrhages, a subject which requires especial clearness in the discussion of treatment. But where all is so good it is invidious to particularize. Nevertheless, a word may be said in reference to the Boston contribution upon the mechanism of labor, which, as we should expect, is distinguished for its scholarly style and minute elaboration. It is the most complete and detailed presentation of the subject which has yet appeared.

If it was decided that the names of the writers should be indicated in connection with their respective contributions, it would surely have been better to have placed the names in the body of the book at the head of the several articles, instead of compelling the reader to turn back to the table of contents, and, after searching, to find them inconspicuously bracketed. It is modesty, commendable doubtless, but inconvenient. Moreover, it is presumably a trade necessity which required the binding of thirty pages of advertisements at the end of the book, a proceeding which measurably mars a beautiful volume. But this criticism is quite unjust when the courage and enterprise of the publisher are taken into account. Evidently a large and somewhat appalling outlay was required long before any return could have been anticipated, and while the investment, without doubt, will prove to be profitable, the profession is indebted to him for the confidence which was requisite to make the work an actuality.

The particular features of this volume, in addition to those which render it not only an authoritative, but the best work upon the subject in the English language, are the attractive way in which anatomy and embryology have been discussed, the detailed and clear manner in which operative obstetrics has been described, and the large amount of space devoted to diseases of the fetus and the new-born infant.

After what has been said, any further words of approval are superfluous.

GLENTWORTH R. BUTLER, M.D.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS IN PHOTO-LITHOCHROMES FROM MODELS IN THE MUSEUM OF THE SAINT LOUIS HOSPITAL, PARIS, WITH EXPLANATORY WOODCUTS AND TEXT. By E. Besnier, A. Fournier, Tenneson, Hallopeau, Du Castel, H. Feulard and L. Jacquet. Edited and annotated by J. J. Pringle, M.B., F.R.C.P. Philadelphia: W. B. Saunders. Part I. Price \$3 a part.

This atlas, which is to be published in twelve parts, is a pictorial representation of the famous models of dermatological and syphilitic cases of the Saint Louis Hospital of Paris, most of which have been executed by M. Baretta. It will differ from other publications of a similar character, in that it will represent *typical* cases of common diseases, and not *rare* ones only. Explanatory woodcuts are introduced in the text to elucidate the plates which are described as "photo-lithochromes." These are produced by the latest process of photo lithography and are executed by the leading Parisian artists. The claim made for them, that they are "of exceptional correctness, beauty and merit," is not an exaggerated one.

The plates of Part I. are Lupus Vulgaris of the Centre of the Face, Dermatitis Herpetiformis (Dühring), Syphilitic Chancre of the Vulva, and Purpura Hæmorrhagica.

The great value of this work is the opportunity which it affords to compare actual cases with the plates, for purposes of diagnosis, and the suggestions for treatment which the text contains.

The Museum of the Saint Louis Hospital has long been famous for the wonderful wax models of M. Baretta, which are now more than 1800 in number. It is these models which this atlas will reproduce.

SPECTACLES AND EYE-GLASSES; THEIR FORMS, MOUNTING AND PROPER ADJUSTMENT. By R. J. Phillips, M.D., Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine, etc. Second edition, revised; with illustrations. Philadelphia: P. Blakiston, Son & Co., 1895. Pp. 105. Price \$1.00.

Since the first edition of this little book appeared, there has been a reform in the numeration of prisms; the present edition contains the latest on this subject. Those who are desirous of informing themselves as to the method of prescribing spectacles will find what they need in this manual.

OUTLINES OF MATERIA MEDICA AND PHARMACOLOGY: A TEXT-BOOK FOR STUDENTS. By H. M. Bracken, M.D., Professor of Materia Medica, etc., University of Minnesota. Philadelphia: P. Blakiston, Son & Co., 1895. Pp. 383. Price \$2.75.

Prof. Bracken in 1893 prepared the "Outlines of Materia Medica" for his students at the University of Minnesota. This volume is an extension of that work, and is designed for use in the study of materia medica; to facilitate note-taking in the lecture-room, and to aid in the laboratory study of drugs. It is a very clear and concise presentation of the subject.



RICHMOND LENNOX.

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

A PRELIMINARY NOTE UPON THE POSSIBILITIES OF THE APPLICATION OF PHOTOGRAPHY OF UNSEEN SUBSTANCES TO SURGICAL DIAGNOSIS.

BY GEORGE R. FOWLER, M.D.,

Professor of Surgery in the New York Polyclinic, Surgeon to the Methodist Episcopal Hospital,
and to the Brooklyn Hospital, Brooklyn, N. Y.

Statements published recently in the daily press to the effect that Prof. Röntgen, of Würzburg University, Austria, has discovered a light which, for the purposes of photography, will penetrate most organic substances, just as ordinary rays penetrate glass, have caused widespread interest among surgeons. The rays employed are said to be the so-called "cathode rays" of the Crookes' vacuum tube, which, as has been known for more than a year, will pass through some opaque substances.

The suggestion at once occurred to practical surgeons that if the reported results of experiments in which the bones of the hands, for instance, could be photographed, proved to be true, bony deformities arising from injury or disease, as well as the

presence of foreign bodies in the tissues and stone in the bladder, could be demonstrated and definitely recorded, and a new and valuable field of surgical diagnosis opened up.

According to a report forwarded to me by my Stuttgart correspondent, taken from a German paper, Prof. Mosetig, of Vienna, on January 21st, made a successful trial with Röntgen's rays upon two patients, upon whom he was about to operate. The photograph is said to have shown, with the greatest exactness and precision, the condition of the osseous structures in a case of gunshot wound of the hand, as well as the location of the bullet. In a second case the exact character of a deformity of the foot was accurately recorded in a picture, and valuable suggestions furnished as to precise methods of attacking the deformity.

It would thus seem that the surgery of the bony structures of the body, as well as that of foreign bodies embedded in the soft parts, had received a fresh impetus in the shape of improved methods of diagnosis. In obscure cases of fracture, for instance, in which, owing to excessive swelling of the parts, an accurate estimate of the exact relations of bony fragments to each other is impossible with the aid of palpation alone, the method of photography by means of Röntgen's rays would not only enable the surgeon, by following the indications derived from the picture to adjust the fragments properly, but to photograph them when in position. He would thus be enabled to allay the anxieties of the patient and his friends regarding the efficiency of the methods of reduction employed, and at the same time obtain a trustworthy record of the conditions present, which could be made use of for subsequent study, as well as serve as a means of defense in case of alleged malpractice.

So, too, the changes which the tarsal bones undergo in the course of treatment of cases of congenital varus by manipulation and orthopedic appliances could be carefully followed and accurately studied. Varus is selected as the type of a class of cases in which the application of the new discovery would be of the very greatest value; its application to other deformities is self-evident.

In the case of foreign bodies embedded in the soft tissues, these could be located with certainty, save in the case of gunshot injuries to the contents of the cranial cavity and when bullets are embedded in the substance of the bones. Under these circumstances the bony encasement might prevent the suc-

cessful application of the method, unless, as has been suggested, the rays used are those of electro-magnetic radiation, which, while they traverse non-conductors of electricity with ease, are arrested by conductors.

The surgical world awaits, with bated breath and every faculty alert, further information concerning this reputed discovery. Should the reported results of Mosetig's trials of the method be confirmed by a communication from that surgeon's pen, or a successful application of the method be reported from other and equally trustworthy sources, a new era of surgical diagnosis will have been opened up, and a long step made in the interests of practical surgery, as well as a great boon conferred upon humanity.

BURGRAF VS. EMERY.

CHARGE OF JUSTICE AUGUSTUS VAN WYCK.

Gentlemen of the Jury :—Under our system of jurisprudence it becomes my duty to instruct you in the rules of law that should govern and regulate you absolutely in the consideration of this case. That which I instruct you to be the law must be followed imperatively by you. On the other hand, every controverted question of fact in this case, which I deem proper to submit to the jury, is within your sole province, uninfluenced by me, to pass upon. Let me say right here that the function of a juror is the highest that can be assigned to the citizen. It is the basis of the order and the obedience to law that prevails in civilized countries ; and let me say that every case should receive serious and intelligent consideration on the part of each and every one of the twelve jurors drawn from the panel to try that case.

This case has been ably and earnestly presented by the plaintiff's counsel and by the defendant's counsel in behalf of their respective interests ; though at times it has seemed to me that they have shown a spirit of too much acrimony toward each other, notwithstanding that I know that these counsel are personally friendly with each other.

In approaching the consideration of this case, let me say that you should banish from your mind any prejudice, sympathy, hostility, or friendliness to the one side or to the other. Courts are

not organized for the purpose of indulging in sympathy or in charity, but for the purpose of doing even-handed and cold-blooded justice between parties, according to certain well-known rules of law and according to the facts, as you shall conscientiously determine them to exist from the evidence that has been offered before you.

Before the plaintiff can recover in this case against Dr. Boyden, he must establish, by a fair preponderance of evidence, that the death of this child was caused by the negligence of Dr. Boyden in the method of vaccinating her upon the occasion in question. Let me say to you that a fair preponderance of evidence does not mean the largest number of witnesses; it means evidence of such weight and character as carries conviction to your minds of the existence of the facts sought to be proved.

The law of negligence is a common-sense rule, is failure to exercise that degree of care which persons of ordinary experience and prudence should, would, and ought to exercise under similar circumstances in a like case or in the same case. Therefore, it becomes your duty to determine what were the circumstances in this case, and to say whether Dr. Boyden was guilty of negligence in the method adopted in vaccinating the child, and whether, by virtue of that negligence or omission of duty on his part, the death of this child was caused.

There has been a great deal of evidence offered in this case for the purpose of establishing certain branches of the case which have been taken from your consideration, and which it is proper for me to say to you that you should eliminate in considering the case.

In the first place there has been evidence offered, or intimations made from time to time, that vaccination itself was not efficacious as a preventive of smallpox; that the disease or diseases produced by vaccination were of greater injury and harm to the human race than the dangers that ensue from smallpox. Let me say to you that that question is taken absolutely from your consideration. The efficacy of vaccination as a preventive of smallpox is not a question for you twelve gentlemen to pass upon or to decide; and whether it be efficacious or not is no evidence of negligence on the part of Dr. Boyden. The question whether bovine or humanized lymph should be used has also been spoken of by the doctors and referred to in the books. Let me tell you that that question also cannot be taken into consideration in determining the alleged negligence of Dr. Boyden.

Gentlemen, the history of this case has been interesting, I think, to all, sad as it may be. Doubtless every human being that hears me sympathizes with those parents for the loss of their dear little one. In this age, the tendency of our population is to gather in our cities. By degrees the percentage of population residing in cities is increasing. The result is that health departments are required to preserve the masses collected in the cities from various kinds of contagion. The law of this State has recognized that the public schools may be the means of disseminating disease by means of children, going to school from their various homes, coming in contact with diseased scholars, especially in the case of smallpox. Hence, there are certain provisions of the statutes of this State intended to prevent the dissemination of smallpox through the scholars of the schools throughout the large cities and thickly settled communities. In this city we have a health department also. Dr. Emery, one of the defendants in this case, was the head of that department at the time of this occurrence, when a considerable number of smallpox cases existed here scattered throughout the city. Steps were taken for preventing the spread of the disease. The Board of Education, in conjunction with Dr. Emery, instituted a plan for the purpose of preventing its spread by a universal vaccination in the city as far as within their power lay. Dr. Boyden was appointed one of the vaccinators. Inspectors were sent to the various schools, in part execution of this design on the part of the Health Department and on the part of the Board of Education, for the purpose of inspecting the scholars and ascertaining those who were not free from the liabilities of smallpox, so far as vaccination was a preventive. Notice was given in this school that the scholars would be vaccinated unless they had been previously vaccinated at home before a certain time; and this little girl who died, then in her joy and good health, doubtless told her parents that she would either have to quit school or be vaccinated. Notwithstanding that, they sent her to school and she was vaccinated. Let me say in this connection that we are told by the parents that this child had been vaccinated about eight months before, so that they were not totally unaware of what vaccination was; they had cared for the child in that respect, and the child had been vaccinated. Let me say to you, as counsel on both sides have said to you under the intimation of the ruling that I made before they began summing up, that there is no question in this case of forcible trespass upon this child, and that it was not

wrongful for Dr. Boyden, under all the circumstances in this case, to vaccinate that child.

That brings us to really the only question that you are to pass upon, namely, whether Dr. Boyden exercised the care that a doctor should have exercised in the operation of vaccination to prevent any harm arising therefrom. A doctor holds himself out to the public as possessed of the ordinary skill of his profession. He is not held to the highest skill in his profession any more than lawyers are held to the highest skill and learning of the great leaders of the bar : but they are held to, and hold themselves out as possessed of the ordinary skill incident to their profession : and the question for you to determine is, whether Dr. Boyden exercised in performing vaccination upon this child such a degree of skill, and, if he did not, whether the wound of vaccination caused the death of this child. The only question for you to determine with regard to that is this : The plaintiff in this case contends that the arm should have been washed and that an antiseptic should have been applied at the time of vaccination. Is that so? Did ordinary care on the part of the physician dictate or demand that? That is a question of fact for you to determine. You are to determine it upon the evidence. You heard the evidence of Dr. Meyer, who said that that was a proper practice. You heard the testimony of the other doctors, who said that it was not the usual practice ; that the ordinary practice and skill of the profession did not demand that precaution ; and that it was the usual way to vaccinate without the washing of the arm or the application of antiseptics, just as Dr. Boyden did vaccinate this child. That is a question of fact for you to determine ; and you are to determine the further question whether Dr. Boyden's failure to do that caused the death of this child.

Now, let me say to you that Dr. Boyden used proper care in the selection of the vaccine matter. There is no proof here that is worthy of submitting to you that there was any negligence in procuring the special vaccine matter in question. It was received by the Health Department from one of the chief manufacturers of the country. There is no proof that its reputation is not good ; but the proof is that it was put up in the usual way, upon ivory points, and furthermore, that the Health Department made inquiries on that subject. There is no proof to submit to you that the vaccine matter was not carefully selected that was bought from the establishment that sold it : and, if a tetanus bacillus happened to be upon that point, and was injected

by vaccination, and killed the child by producing tetanus, then this defendant would not be liable therefor. But if the tetanus bacillus found its way there by virtue of not washing the arm and not applying the antiseptic, and so killed the child, then it is for you to say whether the doctor exercised ordinary care; that is, whether any lack of ordinary care in the vaccination caused the death.

Gentlemen of the jury, I think it is proper for me to caution you not to allow sympathy for the bereaved father and mother to influence you or to blind you as to any fact in this case. Nor should you allow yourselves to be influenced by any prejudice against the medical profession. Doctors are not insurers; they simply hold themselves out as possessed of the ordinary skill that their profession has attained, and to do what they can to help the ailing and sick mankind.

Take this case and say, after careful, conscientious and intelligent consideration, did the negligence of Dr. Boyden, in the respects to which I have referred, cause the death of this child? If you determine that it did not, that ends the case, for the defendant is entitled to a verdict. On the other hand, if you find that the negligence of the defendant, Boyden, did cause the death, and without any negligence on the part of the parents or custodian of this child, then the plaintiff will be entitled to a verdict—otherwise, the defendant. If the plaintiff is entitled to recover, the law says that he is entitled to recover such a sum as you may deem a fair and just compensation for the pecuniary injuries inflicted upon the father by the death of his child. There is no mathematical formula by which you can determine what that sum is; it is left to your sound discretion, taking into consideration the age of the child and its prospective pecuniary benefit to the father, excluding anything like compensation for the anguish of the father or mother for the death of his loved one or of her loved one. Your verdict must be confined, if you reach the question of damages, to a sum which will be a just and fair compensation for the pecuniary injury inflicted upon the father by virtue of the death of his child.

Take this case and do justice—calm, deliberate, conscientious and intelligent justice, according to the law as I have given it to you, and according to the facts as you shall find them to be from the evidence. Have counsel any requests to make?

Mr. Reynolds: We are satisfied with the charge.

Mr. Ross: I have, sir; I shall have to present a number of requests to cover the law.

The Court: Go right on, Mr. Ross.

Mr. Ross: In the first place, I except to that part of your Honor's charge in which you state that notice was given in this school that scholars would have to be vaccinated or have to leave the school, and all following in connection with that statement.

The Court: That was just incidental. I do not think it is material, because I take the question from the jury of forcible trespass upon the child.

Mr. Ross: I also except to that portion of your Honor's charge in which you say that the evidence shows that this girl told her parents that she would have to leave school or be vaccinated.

The Court: Well, I will leave that to the jury. I withdraw that part of the charge, if it is not so. I leave that to their memory.

Mr. Ross: I also except to that portion of your Honor's charge in which you say that it was not wrongful, under all the circumstances of this case, to vaccinate this child.

The Court: Provided it was done carefully.

Mr. Ross: The proposition as stated by the Court I understood, and I think the Court intended it that way, to eliminate the question of assault.

The Court: That is so.

Mr. Ross: I referred to that, and that is the reason of the exception here to that part.

The Court: Yes.

Mr. Ross: And I therefore except to it in all its terms, whether limited or not. I also except to that portion of your Honor's charge in which you say "there is no evidence to submit to you," meaning the jury, "that there was any negligence in selecting the vaccine matter."

The Court: Yes, I stand to that.

Mr. Ross: I except to that. Now I ask your Honor to charge the jury that there is no provision of law authorizing the Commissioner of Health or the defendant, Boyden, under the authority of the Commissioner of Health or under the authority or permission of the Board of Education or any of its representatives, to vaccinate at all any child in the public schools without the consent of the child; and that, if such consent be assumed, be-

fore it could be relied upon, it must be established by the defendant that the child was competent to consent.

The Court: I charge you this, gentlemen, that they have no right forcibly, against the will of the parents or against the will of the child or the custodian or the child, to vaccinate; but I take the question involved in that from your consideration. I say that this child was not vaccinated as a matter of law against the will and consent of the child, or its custodian or its parents.

Mr. Ross: It was to raise that legal question that your Honor has excluded that I except. I also ask your Honor to say to this jury that it cannot be said as a matter of law that this child, between eight and nine years of age, was of competent or sufficient understanding to assent or consent to vaccination.

The Court: That may be so; but at the same time it is not a question in this case, as I have already said—I mean for the consideration of the jury.

Mr. Ross: I except. I also request your Honor to charge the jury that, if the child was not of sufficient understanding to comprehend and consent to vaccination, any vaccination or touching of her person for that purpose was an assault.

The Court: I charge, gentlemen, that there was no assault in the case.

Mr. Ross: I except. I also request your Honor to charge the jury that the only power vested in the Board of Education or any of its representatives or that the defendant could assume, if he assumed to act by the power of the Board of Education, or assumed to act by authority of the Board of Health or Health Commissioner, was to exclude a child from the school who was not vaccinated, and that the law did not permit him to vaccinate any child in the school unless with the consent of that child, and unless the child was of sufficient age and understanding to comprehend and consent.

The Court: I have charged so often upon the question involved in that request that I think it unnecessary to charge any further upon that subject.

Mr. Ross: I except.

The Court: I charge you, gentlemen, that this child was not vaccinated without the consent or against the will of the child, or her custodian or her parents.

Mr. Ross: I except to that.

The Court: It seems to me that you have raised that point about as plainly and squarely as you can.

Mr. Ross: I am desirous only, if your Honor please, of raising every point that your Honor has excluded.

The Court: That is right, but I think you have done that sufficiently clearly.

Mr. Ross: I cannot raise them afterwards, and I purpose doing that at the present time.

The Court: That is right.

Mr. Ross: I think that is sufficient.

The Court: Take the case, gentlemen.

The jury retired to the jury room at 1 o'clock P. M.

At 2 o'clock the jury sent to the Court a request for an ivory point, which was sent to them by consent of counsel, under the direction of the Court.

At 4.05 P. M. the jury were again brought into court.

The Court: What is it that you wish to be instructed upon, gentlemen?

The Foreman: The jury wish to be instructed on that part of your Honor's charge referring to the introduction of the germ of tetanus.

The stenographer then read as follows:

"There is no proof to submit to you that the vaccine matter was not carefully selected—that was bought from the establishment that sold it; and if a tetanus bacillus happened to be upon that point, and was injected by vaccination, and killed the child by producing tetanus, then this defendant would not be liable therefor. But if the tetanus bacillus found its way there by virtue of not washing the arm and not applying an antiseptic, and so killed the child, then it is for you to say whether the doctor exercised ordinary care; that is, whether any lack of ordinary care in the vaccination caused the death."

The Court: Do you wish any further instructions?

The Foreman: I think not.

At 4.30 P. M. the jury were again brought into court.

The Court: I understand from the officer that you desire some further instructions.

The Foreman: Yes sir; there are two of the jurors that would like—

The Court: Don't tell me what they said.

The Foreman: I beg your pardon—that would like to have the charge repeated.

The Court: What part of it?

The Foreman: I don't know—generally, I presume.

The Court: You will have to be more definite, gentlemen.

A Juror: Can the individual jurors repeat what part they wish repeated?

The Court: No, the jury ought to state through their foreman what they want. You will have to retire, gentlemen.

Sealed verdict ordered.

♦♦♦

A CASE OF TRANSPOSITION OF THE VISCERA, OR DEXTRO-CARDIA.

BY W. H. HAYNES, M.D.,

Brooklyn, N. Y.

The subject, H—— P——, is a colored man, aged 27, born at Riverhead, L. I., married, and does general laboring work for a living. The condition was discovered when he was three years old through accidentally fracturing his right clavicle, during the treatment of which the attending physician discovered it. He has never had any pulmonary or other serious complaint, but says he was refused life insurance on account of the condition by the medical examiner.

At present he is five feet seven inches tall, weighs 137 pounds, is right-handed, flat-chested, with apex beat of heart distinctly seen and felt in the fifth interspace, on a line with or a little internally to the right nipple. The heart sounds are plainly heard to the right of the sternum, with dulness on percussion all over this region, and not to the left of the sternum, where there is resonance on percussion, and the respiratory murmur is clearly heard in the usual location of the heart. The liver, as shown by flatness on percussion, is mapped out, lying in the left hypochondriac region, while there is resonance all over the right side in its usual location, excepting laterally and behind over a small area, supposedly the spleen. The rectum passes upward, backward, and to the left, as is usual. He enjoys good health, and is the father of four children.

There are two varieties of congenital dextro-cardia, one associated with transposition of the abdominal viscera and the other when it is not so accompanied. The first form is the most common of this freak of nature, of which our case is an example, and of which we read in the journals of others being found at intervals, the last being that of a child lately reported in the New York Medical Record for the past month.

In 1884 Byrom Bramwell, in his work on "The Heart and Its Diseases," page 195, reports that in fifteen years of special work in this direction he had met with two cases of this form of dextro-cardia, and at the same time reports a case where the heart was the only organ transposed, and says that, with another case verified post mortem, they are the only two he knows of that have been recorded in English literature up to that time (1884). To this small number, after quite an extended search, I can add another case of this character, reported by Dr. Frank Lydstrom in the New York Medical Record for July 21st, 1883, and also recorded by Alonzo Clark in his little book on "Diseases of the Heart," page 232. A case of a still rarer form of transposition of the viscera is reported in the Transactions of the New York Pathological Society for 1886, where the anomaly only related to the abdominal organs, the thoracic being located naturally, the heart on the left side.

It is a condition not generally known to its possessor and well to be kept in mind, as the following incident will show : A patient suffering from cancerous stricture of the rectum was colotomized on the left side in the usual way without affording any relief, and at the autopsy the sigmoid flexure was discovered on the right side and the ascending colon on the left.

The apparent uninvolvedness of the rectum and, of course, supposedly the colon in the transposition, as shown by the rectal examination in my case, is explained by the autopsy of two other cases to be due either to the sigmoid flexure crossing over from the right side to the left of the pelvis, or to a doubling on itself of the descending colon and then passing out as is usual.

Guttmann, in demonstrating a case of transposition of the viscera before the Berlin Medical Society, says that from more than one hundred cases collected by him the anomaly is found more frequently in men than in women, the proportion being as two and a half to one ; in ninety per cent. it is found in all the organs of the thorax and abdomen ; in ten per cent. in the abdomen alone. Simultaneous transposition of the viscera of the thorax and abdomen is complete in seventy-five per cent. of all cases. The duration of life is not influenced by this malposition, as more than half of the reported cases reached ages varying from twenty to eighty-four years.

Gruber comments upon seventy-nine cases studied by himself. Of them seventy-one were cases of general transposition of all thoracic and abdominal viscera ; in eight only abdominal.

Forty-nine subjects were men, nineteen women, and in eleven the sex was not stated. The spleen was wanting in three cases, rudimentary in one, bisected in one, trisected in another, and accompanied by accessory spleens in three cases. There was an abnormal position of the kidneys in eight cases, in one case there existed only one kidney, and in one case the spermatic vessels were not transposed.

According to Hyrtl, persons with complete transposition of the viscera were usually left-handed ; especially when the heart was on the right side. Of seventeen reported cases in which this point was noted fifteen were right-handed.

Referring to the etiology of the displacement, we may mention the theory of Von Baer, who attributes it to a deviation of the umbilical vesicle, which precedes in the order of development both the heart and the liver. This normally occupies the median line of the body, inclining later a little to the right. Should this deviation, however, incline the vesicle to the left, transposition of the viscera follows.

Rindfleisch accepts the displacement of the heart as the prime factor in the general transposition, and offers as an explanation of its occurrence the following theory : Every column of liquid which flows through an elastic tube under strong pressure experiences a spiral torsion, and the same physical law may be held to apply to the blood column, which, like other fluids under similar circumstances, communicates its spiral motion to the vessel containing it. The primitive heart-sac, therefore, acts like a twisted cylinder, and under normal circumstances the direction of the spiral turn is from left to right, so that the lower extremity of the spire, subsequently to become the apex of the heart, falls to the left. Should, however, the spiral turn assume the other direction, so that the apex falls to the right, the result will be a complete inversion of the non-symmetrical viscera, which are not formed until a subsequent period, and thus splanchnic inversion must follow.

This explanation, purely theoretical as it is, still leaves us in the dark as to the cause of the unnatural deviation of the spiral to the right side or of the transposition of the abdominal viscera alone, nor is it likely that the solution will soon be forthcoming. Leaving aside the question of primary etiology, it certainly is more in accordance with the general harmony of nature to assume that one of the earliest developed organs should exercise such an influence over the remainder as to regulate their position by its

own, than that the anomaly should affect each of the misplaced organs individually. We know that the circulatory system is one of the first to show itself in the newly formed being; that in the chick the contractions of the heart are apparent as early as the thirtieth hour of fetal life (Kölliker), and it is very reasonable to suppose that an anomaly of position, affecting the heart in the early stages of its development, should not remain without influence on the other viscera, whose growth and development are largely dependent upon that very circulation of which the heart constitutes so important a part.

In one case reported the autopsy mentions the heart cavities as being completely reversed or turned over like turning backward the pages of a book.

Literature : (chiefly) Byrom Bramhall, "Diseases of the Heart," 1884; Alonzo Clark, "Diseases of the Heart," 1884; Transactions of the New York Pathological Society, 1886; Eichberg, in the Medical News, March 22d, 1884; Collins, in the New York Medical Record for April 15th, 1893; besides scattered reports of isolated cases.

DISCUSSION.

Dr. Geo. W. Brush : I am very much pleased to hear the paper which has just been read. I simply rise to report one case which came under my observation out of 5,000 examinations of soldiers for pensions. Out of this number I found only one where the heart was on the right side, and that was very distinct and very emphatic, but there were no other abnormalities that I could discover.

Dr. C. C. Henry : I can add one more to that, Mr. President, in the practice of my brother in Newark, Delaware. Once when I was there he had me go out to see a colored man who lived in the country a little way from town, and he called my attention to the fact that his heart was on the right side. I went to see him for some acute trouble. I do not remember what it was now, but while there I made a pretty thorough examination of the heart and found it very much as in this young man. As far as the other viscera were concerned, I did not investigate them.

Dr. Haynes : Was the man right-handed or left-handed?

Dr. Henry : That I did not inquire.

Dr. Haynes : I have nothing further to say, Mr. President.

The leading points are the transposition, which in this case is of the commonest form, and it is very important for members in meeting a case to know the variety, whether it is complicated

with the transposition of the abdominal viscera or not, or whether it is the abdominal viscera alone. The other points are whether the subject is right-handed or left-handed, and whether the spleen is present or not, the latter of course can only be accurately ascertained by an autopsy. A very interesting point is in regard to the rectum and intestinal canal, because that is part of the anomaly which the patient himself cannot know about, and the operating surgeon cannot determine without careful examination, and in the face of the accident that has happened, I think it is very well for surgeons in abdominal work to be sure no anomaly exists.

The President : I should think in reporting a case of this kind it would be well to give the name of the patient, for fear several others should report the same case.

RUPTURE OF UTERUS.

BY L. GRANT BALDWIN, M.D.

Read before the Brooklyn Gynecological Society.

I have a case which I should like to report and simply place on record. It is a case of ruptured uterus, with the escape of the placenta into the abdominal cavity.

Mrs. C., age twenty-three, native of United States, married five years, mother of five children ; no miscarriages.

According to the statement of her mother, labor commenced at 7 P.M. on Monday, September 16th. The child was delivered by version, after failure to deliver with forceps, some time before midnight. Baby was dead. Thirty-six hours later, or Wednesday at 10 o'clock, patient was brought to St. Peter's Hospital, suffering from shock. Temperature 101; pulse 140. Examination revealed a rupture in the anterior wall of the uterus just above the vaginal attachment, extending to nearly two-thirds of the circumference, the placenta having escaped into the peritoneal cavity and could be felt through the abdominal wall just below the diaphragm on the left side. Blood was oozing freely from the vagina. A hurried consultation decided that an immediate abdominal section offered a remote but the only chance of recovery.

The rupture was found as stated and the uterus removed. The abdomen was filled with unclotted blood ; there was a very general peritonitis ; the placenta was stinking.

The patient did not rally, but died at 4.30 P.M., about forty-two hours after rupture. We can only speculate as to the result had she received prompt and proper treatment at the time of rupture.

Dr. Jewett: It is a perplexing question what is the best course to pursue in many of these cases. Some authorities take the ground that abdominal section is necessary in practically all of them, but with laparotomy they nearly all die. With drainage in suitable cases some are saved. More than 90 per cent. of complete ruptures die under any method of treatment. In a case rupturing anteriorly, as this did, drainage would be out of the question. Rupture posteriorly is better suited to drainage—by a rubber tube or by iodoform wicking. It would seem that abdominal section, with hysterectomy in extensive ruptures, ought to yield better results than it does. The condition does not seem to be worse than some others in which the success of treatment is better.

The case reported recalls an unusual one which I saw about a year ago. The labor was apparently going on normally when the woman uttered a violent outcry. Her physician hastening to her bedside from an adjoining room found the labor pains had wholly ceased. As they were not resumed I was asked to see the patient about twelve hours later. The woman then had a fairly good pulse and there was nothing in her general appearance to suggest rupture and yet the uterus had split posteriorly, the vaginal wall was torn from one side of the pelvis to the other at the cervical junction, and the child, weighing 11 pounds, was in the abdominal cavity, together with the placenta. I drew the child down easily through the opening, and after it the placenta. Then I hoped to suture the uterus through the vagina to close the larger portion of the wound, but I failed in this, and was finally compelled to open the abdomen. I closed the major part of the rent, leaving a small opening into the posterior vaginal fornix for drainage. In this I left a strip of iodoform gauze. The patient was in very good condition even after the abdominal section, but she gradually developed a high temperature and pulse, and died in two or three days.

Dr. McNaughton: Was it a normal uterus?

Dr. L. G. Baldwin: As far as I could make out the muscular development was good, but she had had five children in five years, and I believe that that is the history in most cases of ruptured uterus, frequent and repeated pregnancies in a short space of time.

I may say that the matter of drainage was considered, but as Dr. Jewett has suggested, the rupture being anterior it was impossible; then, too, the placenta was out of my reach. In doing hysterectomy, all there was to do was to clamp off with Keith's forceps on each side and cut off the uterus. The stump was covered as much as possible with peritoneum.

The cervix was left. It was a transverse laceration, almost a straight rent.

Dr. Jewett: How long was the patient in labor, and was there any history of the character of the labor?

Dr. Baldwin: All the history I could get was obtained from the mother.

Dr. W. B. Chase: The mortality attending rupture of the uterus is so great, as Dr. Jewett has suggested, that in this form of accident the outlook is certainly very discouraging for interference, and yet the indication is very plain what should be done under conditions of that kind.

I remember seeing a case some years ago—(which I may have mentioned here before, but I think not) in consultation with a gentleman of this city of large and long experience—in which the woman was in a state of profound collapse and the doctor was in doubt as to the cause of her condition. He had succeeded in delivering both the child and the placenta, and when I saw her she showed marked signs of developing heart failure and collapse. An examination revealed a laceration on the right side of the uterus, involving the vaginal wall, and before any preparation could be made to repair the trouble the woman died. That was within half an hour after I first saw her and less than two hours after labor was terminated.

Another case, which Dr. Jewett will recall, occurred some three or four years ago, and was a very unique case as well as a very unfortunate one. It occurred during the time of the epidemic of grippé. The lady was the patient of one of our most accomplished physicians. He telephoned me one night, asking me to go at once to a case of labor in a primipara, and that he would be there as soon as he could. Anticipating complications I went around to Greene avenue and saw her. She was a very delicate, small woman, with an enormously distended abdomen. It was a case of placenta previa. Fearing hemorrhage, I deferred interference until he came, and it was decided that there was only one thing to be done, and that was version. At the doctor's request I performed the version and delivered the woman with

very little trouble. I detached the placenta, and so far as that feature of the case is concerned we had no trouble. The discharge of amniotic fluid was enormous—how much I cannot exactly say, but certainly several gallons. The version was brought about with the utmost ease, the fetus turning without hardly impinging on the walls of the uterus, on account of the large amount of amniotic fluid which had not escaped, and yet rupture of the uterus occurred. I believe the cause of this particular case of rupture was due to the attenuated walls of the uterus brought about by the hyper-distension of the large amount of amniotic fluid, the uterine walls being no thicker than a knife-blade. Dr. Jewett saw the case, opened the abdomen and repaired the rent in the vaginal and broad ligament which extended a short distance into the uterus. The woman survived less than twenty-four hours. In this case there was no unnecessary delay, the abdomen was opened and all was done within an hour or an hour and a half after the accident, and yet it was of no avail.

Dr. Jewett: If I remember rightly, in that case the woman passed no urine after the operation, and she had albuminuria before, which was not known to me until the anuria following the abdominal section.

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PHLEGMASIA ALBA DOLENS.

BY JOSEPH H. RAYMOND, M.D.

Read before the Brooklyn Gynecological Society.

[CONCLUDED FROM PAGE III.]

In studying up this subject I have had occasion to refer to several foreign authorities. As some of these may not have been brought to your attention, I have translated them and take the liberty of reading them to you.

Ahlfeld, *Lehrbuch der Geburtshilfe*, Leipzig, 1894: "The poison that infects is connected with the presence of fission fungi (*schizomycetes*), which either penetrate the healthy tissue and through their enormous multiplication destroy the tissue, and thereby or through chemical metabolic products (toxine, ptomaine) lead to disease of the entire organism (infection) or settle down in the dead tissue, which, of course, is present in the uterus and vagina in the greatest amount, establish themselves there, increase, and also produce ptomaines, which, absorbed by the adjoining, vessel-containing tissue-surfaces, are transported into the body (resorp-

tion fever, intoxication). It is rare that one of these processes occurs alone; they almost always are bound together. Perhaps they belong so close together because the putrid tissue-destruction on the one hand renders the hitherto healthy tissue more suitable for infection; or, on the other hand, gives an increased virulence to the pathogenic organisms *which are probably present in every vagina*.

"The bacteriological investigations made on the occasion of severe puerperal affections permit almost always the finding of the streptococcus pyogenes. The observations are increasing in which other fission fungi have been found, as the diphtheria bacillus. Fränkel's pneumococcus, bacterium coli commune, Neisser's diplococcus, and in one special form of puerperal fever Nicolaier's tetanus bacillus.

"In mild infected wounds one sees sometimes only the pus-producing staphylococcus pyogenes aureus and albus, but the streptococcus is also present in such cases.

"Of the putrefactive bacteria which, through absorption of their toxic products, furnish the foundation for putrid intoxication, there is certainly a large number of saprophytic forms present in the vagina.

"The existence of putrefactive bacteria in the vagina is nowhere disputed, while the presence of pathogenic micro-organisms in the vaginæ of healthy women is pretty generally denied.

"In the assumption that the vaginal canal, being in free communication with the external world, must undoubtedly receive the bacteria which are on the external genitals, the pathogenic included, I have, from the beginning of the question of the etiology of child-bed fever, maintained the position that the micro-organisms necessary for infection were always present in the vagina.

"The bacteriological investigations which were to decide this controversy, the more completely and exactly they have been carried on, have more and more confirmed my assumption, and if I here quote the view of Baumgarten, that in the vagina living streptococci cannot by bacteriological examination be so easily proved to exist, because they grow with so much more difficulty than the luxuriantly growing staphylococci, so are we certainly right in regarding the streptococcus also as a ubiquitous fission fungus. We will therefore, in our further consideration, start out with the assumption that we always have to deal with the streptococcus pyogenes.

"Of the remaining pathogenic fungi, there are always present

in the vagina staphylococci; Neisser's diplococcus, in the numerous cases in which pregnant women and those in confinement are infected with gonorrhea; the bacterium coli commune, if its migration from the intestine to the serosa of the uterus and its adnexa is promoted by diseases of the intestinal wall (adhesions); the pneumococcus; the streptococcus erysipelatis, and others, if a disease of this character exists in the neighborhood of the pregnant or confined woman, or a transference into the lying-in room takes place.

"It is for the most part a septic-pyemic process which brings about the inflammation of the veins and with it the thrombosis, but occasionally this has so benign a character that one can hardly look upon the affection as the sequel of an infection; but a purely mechanical cause and an easier coagulability of the blood may be made answerable for the stoppage of the vessel.

"The swelling of an extremity begins during the time that the patient feels well, or at most complains of pains in the thigh and a numb feeling. After a slight chill, but also without it, on a given day one leg becomes swollen, is painful on motion, and especially with difficulty can be moved. The swelling increases more or less quickly, dependent on the size of the affected vein, and after about three days the greatest dimension is reached. After about six days the reduction in the swelling begins. Frequently thrombosis of one side follows that of the other. In all one must reckon on from six to eight weeks as the duration of the case.

"According as the phlegmasia is a partial symptom of a severe illness, or has a more mechanical cause, will the prognosis and therapeutics vary.

"Even in the benign thigh-thrombosis must every movement of the patient be avoided. To make possible the emptying of the bladder and bowels without being compelled to raise the patient, the thighs must be spread wide apart and the urine and feces must be received in a flat vessel passed beneath. The underbedding must be diligently changed, on account of the threatening bed-sores.

"In the beginning of the thigh-swelling an ice-bag should be used at the inguinal region; later, Priessnitz wrappings. The swelling of the extremities subsides very slowly, through the formation of collateral channels. Then one occasionally feels more distinctly the hard cords of the obliterated larger vessels."

Principles of Surgery and Surgical Pathology, Dr. Hermann Tillmans, professor in the University of Leipzig, 1894: "Phleg-

masia alba dolens is an inflammation of the leg, rarely of both legs, running a slow course, with œdema and pain, principally due to venous thrombosis, and occurring mostly in lying-in women and in cachectic patients (tuberculosis, carcinoma, etc.). The phlegmasia alba dolens of puerperal women is usually caused by the extension of an infectious inflammation of the pelvic connective tissue (parametritis), which ordinarily takes place in the second week after confinement. It terminates either in absorption of the inflammatory infiltrate or in suppuration or gangrene, and rarely in death, which is then apt to be due to embolism or sepsis. The phlegmasia alba dolens of cachexia is mainly the result of venous stasis, caused by defective cardiac and pulmonary activity. It rarely goes on to suppuration.

"The streptococcus pyogenes can be found almost anywhere, and its pathogenic effects may be manifested in various ways, according to the manner and region in which it gains access to the body. It is found in saliva, nasal and vaginal mucus, and in the urethra of man in health. This coccus causes for the most part progressive suppuration, and from recent discoveries the streptococcus pyogenes is thought to be identical with Fehleisen's streptococcus of erysipelas."

Précis d'Obstétrique: Ribemont-Dessaignes et Lepage: Paris, 1894: "Widal has demonstrated that the phlegmasia is of infectious origin, that it is an attenuated form of puerperal septicemia, and that it is produced by the streptococcus. It is this microbe which, swept along by the blood, is deposited upon the endothelium of the vein and inflames its wall. The clot forms consecutively to this inflammation. Sometimes the propagation of the inflammation is made by the external coat of the veins and by the vasa-vasorum.

"Phlegmasia alba dolens begins rarely before the twelfth day after the labor; it appears often from the fifteenth to the twentieth day, sometimes later.

"Among the signs which permit the foretelling of the appearance of a puerperal phlegmasia, Pinard attaches a certain importance to the sudden appearance of pains in the shoulder, stitches in the side, and bloody sputum, which appears several days after, and results from small pulmonary emboli.

"In certain cases it is the painful phenomena of the side of the chest which mark the beginning of symptoms; it is this form which Vaquez calls phlebitis of pulmonary beginning. One sees, one after the other, the errors of diagnosis that can cause these

painful phenomena to be taken for pulmonary congestion, pleurisy—even the commencement of pulmonary tuberculosis.

“The characteristic symptoms of phlegmasia begin suddenly. There exists at first a pain, localized at the level of the thrombosis; often it is at the level of the iliac fossa, of the popliteal space, or of the calf. This pain varies in intensity. Sometimes it is dull and accompanied with cramps, numbness, and a feeling of weight; sometimes it is more acute and violent. It is increased by pressure and by the least movement. The skin loses a little of its sensibility to touch and temperature, and presents on the contrary a hyperesthesia to pinching and rubbing.

“Phlegmasia lasts, as a rule, from three weeks to a month. In certain cases where it is not well marked the cure is completed quite rapidly. In the more grave cases, the œdema is accompanied by lymphangitis, by erysipelas, by partial sphacelus of the skin, or even phlegmons consecutive to suppurative periphlebitis.

“*Diagnosis.*—When in a confined patient one has observed manifest symptoms of infection during the first eight days following the confinement, there is reason to fear the appearance of phlegmasia. If toward the fifteenth day the woman has fever with a slight chill, a sharp pain in the iliac fossa or at the level of the calf, the diagnosis obtrudes itself; it is sufficient to confirm it by an examination of the member attacked.

“*Prognosis.*—Like that of other puerperal affections, that of phlegmasia has become much less grave since the antiseptic era. One observes no more those varieties of phlegmasia accompanied by general and local symptoms, grave, giving place to numerous relapses which keep women in bed three or four months and sometimes make confirmed invalids of them.

“Death by embolism, formerly so much dreaded, has become rare. One observes neither one of the following forms: the one (the syncopal form) killing the woman in a few seconds, the other introducing a slow asphyxia.

“*Etiology.*—If the infectious nature of phlegmasia is not at the present doubted by anybody, it is, however, necessary to state precisely a number of etiological conditions that favor its development. It is certain that if the streptococcus is necessary to produce phlegmasia, there is also needed a soil prepared for its culture. In certain women phlegmasia comes on almost without previous febrile symptoms, while other women, presenting various forms of puerperal infection, remain free. In certain

families several women present, on the contrary, this complication, which comes on notwithstanding the precautions taken.

“The frequency of phlegmasia has diminished in considerable proportion for several years, which is certainly due to the improvements of the antiseptic method.

“*Treatment.*—We will not speak of the prophylactic treatment, which consists in antiseptic precautions to be taken before, during, and after the labor. It is, however, an important precaution on which Pinard insists, with reason, to keep in bed for a longer time than other women those who have presented pathological sequelæ of childbirth.

“Has not experience for a long time shown that phlegmasia begins on the very day on which the woman commences to get up prematurely—about the sixteenth or eighteenth day? It is possible that if the stay in bed were prolonged, the development of certain imminent phlegmasias would be prevented.

“When this complication exists, the general treatment consists in giving salts of quinine, tonics (extract of cinchona), and in sustaining as much as possible the strength of the patient. If the pain is severe, hypodermic injections of morphine are indicated.

“The local treatment consists first in the immobilization of the member attacked. It should be placed in a position favorable to the diminution of the œdema and the re-establishment of the collateral circulation. The patient should be placed upon the back, the lower limb stretched out on a cushion of oat-chaff in such manner that it rests upon it by its entire posterior surface and that the foot is more elevated than the knee and the hip. The heel should extend beyond the end of the cushion, so that it will not be exposed to such pressure as easily to cause a slough at this point.

“As a dressing, one can content one’s self with applying over the whole member laudanum and covering it with wadding. Pinard extols since several years a dressing which gives good results. The limb being in the position indicated, it consists in enveloping it completely in compresses soaked with a saturated solution of chlorhydrate d’ammoniaque and covered with taffeta gomme. Without displacing the limb, one soaks twice in twenty-four hours these compresses in the solution mentioned. At the end of five or six days, sometimes more, one sees appear on the member rounded vesicles, more or less large, filled with a purulent fluid. When this eruption of vesicles is very marked, the moist dressing is discontinued and the member is powdered with

starch and enveloped in a thick layer of wadding. If the other member is in turn attacked, the same treatment is instituted.

—A delicate question in practice is that of the getting up of lying-in patients who have had phlegmasia. Two dangers are to be avoided: The one consists in a premature getting up before the clots are absorbed; walking movements might favor a new attack of phlebitis or cause a still more grave accident—the migration of a part of a clot, which might be fatal. It is generally toward the fortieth day after the cessation of the febrile symptoms which commenced at the same time as the phlegmasia, that one can permit, with some precautions, the patient to get up. The other danger consists in keeping the woman in bed for several weeks or months for fear of the terrible embolism. It is especially in these conditions that supervene stiffness of the joints and trophic troubles more or less marked. One of us has recently observed, with Pinard, two women, one of whom was in bed for more than six months after the cessation of a double phlegmasia, while the other was on a mechanical bed three months after a triple phlegmasia which had attacked the two lower limbs and the upper right one. These women rapidly recovered by the mobilization of the joints, by massage of the limbs, by the use of electricity, and by baths.

—Finally, let us remember that certain forms of phlegmasia are accompanied by periphlebitic suppurations, which must be opened like ordinary abscesses.

—A useful precaution in women who have had phlegmasia consists in wearing for a certain time an elastic stocking coming up to the root of the thigh. It is the best means of preventing the consecutive edemas which sufficiently often are accompanied by intermittent pains."

Professor J. M. Van Cott, Jr., has kindly summed up for me pathology of phlegmasia in the following words:

—Phlegmasia alba dolens is, according to consensus of opinion of the best English-speaking and German pathologists, to be regarded as a periphlebitis of the vena saphena magna of septic origin, and accompanied with thrombosis of the vein, which does not antedate the periphlebitis, but is concomitant; and also "phlegmon" of the soft parts of the thigh.

"This conclusion is based upon two facts, *i.e.*:

"1. The histology of the vein and perivenous sheath of connective tissue.

"2. The fact that 'septic inflammation may obtain in struc-

tures widely separated from very small wounds of the vagina, cervix, or vulva . . . which may form the starting-point of a puerperal sepsis, with scarcely any local evidence of infection in or about the wound.' (Schmaus : *Grundriss der Path. Anat.*, S. 536; München, 1895.)

"The phlebitis may start as a periphlebitis, mesophlebitis, or endophlebitis (Virchow), depending on the point at which the exciting cause lights. In the majority of cases the primary lesion is a periphlebitis, because of the greater number of vasa-vasorum, both blood-vessels and lymphatics.

"The irregular 'knotted' feel of the vein is the result of multiple infection, various areas being synchronously attacked. The tension and whiteness of the external soft parts are due to the circumscribed deep-seated nature of the lesion, swelling being deep, with pressure on the outer tissues. Schmaus lays stress on the point that thrombosis does not antedate the periphlebitis, but is due to the same cause and synchronous with it.

"The intensity of the lesion and its progress will depend on the character and virulence of the septic organism that is at hand in the given case, and the resisting power of the patient.

"Pus may form around the vein, or the thrombus may contain septic germs, disintegrate and produce widespread and even fatal infection. On the other hand, the toxic matter may be successfully antagonized, with gradual disappearance of local inflammation and the conversion of the vein into 'whipcord' through organization of the thrombus. (Orth, *Path. Anat.*; Birsch-Hirschfeld, *Path. Anat.*; Ziegler, *Path. Anat.*; Delafield and Prudden, *Path. Anat.*; and many others."

Writing on the subject of puerperal phlebitis in the *Medical and Surgical Reporter* of December 22, 1894, Barton Cooke Hirst, M.D., of Philadelphia, says:

"Of all the forms that sepsis can present in a woman after labor, phlebitis, I should say from experience in consulting practice, is least understood, most often mistaken for something else, and most frequently maltreated by the general physician. And yet there is no form of sepsis that has so many distinctive and peculiar characteristics if they are known and looked for. The most misleading features in the disease, from a diagnostic point of view, are the late appearance of symptoms and the entire absence of local physical signs of inflammation. I have known a septic phlebitis develop as late as five weeks after labor, and in all cases uncomplicated by other forms of septic inflammation

the womb involutes well, is freely movable and insensitive, the broad ligaments with the uterine adnexa are apparently normal, while the general symptoms of high fever, rapid pulse, profound prostration, and metastatic developments may be most marked. It is this absence of local symptoms that strengthens the indisposition in us all to admit sepsis as the cause of disease in our patients after childbirth.

• *Symptoms.*—A typical clinical picture of puerperal phlebitis presents the following characteristics: Evidence of disease appears ten days or more after confinement; there may have been a slight evening rise of temperature from the beginning of the puerperium, and during this time the patient may have appeared somewhat restless or anxious, with a flush on one or both cheeks; the pulse also may have been somewhat accelerated, but there is scarcely enough in the woman's condition to attract her physician's attention. After a varying but considerable length of time, with the premonitory symptoms just described, or with none at all, the temperature rises high in twenty-four or forty-eight hours, a chill sometimes, but not usually, preceding the fever. The pulse is rapid out of all proportion to the temperature, there is a dusky flush on the cheek or cheeks, and patches of red may appear on other parts of the body, particularly on the chest. The tongue is very foul. The patient has an anxious, troubled, restless look, but if questioned may reply that she feels perfectly comfortable, or if she feels ill she cannot complain of any localized pain or discomfort. The abdomen is not distended, nor is it usually at all sensitive to pressure. A vaginal examination is entirely negative. The disease, once begun, runs a most tedious course. I have attended two patients who were seriously ill, with high fever for four months, and I think the woman lucky whose illness is not protracted beyond three weeks. Another most distinctive feature in the course of the disease is the tendency to complete remission of the fever and of all other symptoms for more than a week perhaps; then there is a recurrence of high fever, rapid pulse, and profound prostration—in short, a reappearance of all the old symptoms in their original intensity, but the relapse does not often last long. I have seen such a relapse recur three times in an individual who had been ill three months before the first remission.

• *Treatment.*—The treatment of puerperal phlebitis is summed up in a short sentence: Abstention from local interference and the freest possible use of stimulants and food. Any attempt at intra-

uterine disinfection will make the patient distinctly worse. There is imminent danger of causing metastases or hemorrhage by local interference. In one of my patients an intra-uterine douche was followed by a chill, and within 24 hours by suppurative pleurisy. In another the temperature rose to 106.8° after cleansing the uterine cavity. This, indeed, is a diagnostic feature of considerable value, and is occasionally the only way to distinguish between sapremia and phlebitis, as the following clinical history proves: I saw in consultation a lady who had been delivered three weeks before. She had had a temperature of about 103° for two weeks; her pulse was rapid; there was profound prostration, and one of the most distinguished physical diagnosticians of Philadelphia had the day before detected an incipient septic pneumonia. The abdomen was flat and not tender. The uterus was well involuted and perfectly movable. There was a slightly bloody discharge without odor. All this looked very much like phlebitis. I thoroughly disinfected the uterine cavity, however, and within twelve hours the temperature fell to normal, the signs of pneumonia disappeared, and the patient made an uncomplicated recovery. Had this case been one of phlebitis, as it seemed to be, my local interference would have made the woman much worse. But in spite of this risk, I always carry out one thorough disinfection of the womb, even in a case in which I feel pretty certain of the diagnosis of phlebitis. The clinical history just related is sufficient for such a rule of practice. Having established the diagnosis of phlebitis and having shown the futility of local disinfection, my routine treatment is as follows:

"Milk, predigested if necessary, and predigested beef at regular intervals and in as great quantities as the patient can digest; whiskey, as near a pint a day as she can stand, or, if necessary, champagne in larger quantities. Digitalis for the rapid pulse, and quinine and iron by the bowel. The patient is kept in bed for at least ten days after all symptoms disappear.

"*Prognosis.*—In spite of alarming symptoms and long continuance, the disease should end in recovery in the vast majority of cases. I have only lost one of my cases of phlegmasia and two other cases of phlebitis, a mortality of about 10 per cent. Among the women who recovered were some as desperately ill as I ever saw, so that I approach a case of this kind with considerable confidence as to the result."

DISCUSSION.

Dr. A. Ross Matheson: I am very much interested in the able paper which Dr. Raymond has presented. My experience with this disease has been very limited. I have never had a case occur in my own practice, although I have cared for four cases subsequent to labor, which leads me to believe it is a very rare complication.

I can add nothing to what has been said by Dr. Raymond in regard to treatment or otherwise. The method I have carried out is the one laid down in most of our textbooks: warm applications, rest, tonics, quinine, and such other means as each individual case may require.

In relation to the questions Dr. Raymond has proposed, it seems to me that the limb can be saved, from the fact that in overcoming the ankylosis there was no difficulty. My personal experience has been that the convalescence is very protracted, and the patient must use for a good many months either an elastic stocking or some other means answering the same purpose.

The President: It would be interesting to know the practice of the various members with regard to antiseptic douches before or after labor, vaginal or intra-uterine—how they are in the habit of treating such patients.

Dr. Matheson: Until very recently I have taken no special antiseptic measures previous to labor, except cleanliness as to hands and instruments. Latterly I have, but not in all cases. I scarcely ever order a douche after labor unless I see some special reason for it, and my results are entirely satisfactory.

Dr. Raymond: Did any of Dr. Matheson's cases go on to suppuration?

Dr. Matheson: The first case I saw was during the first year I was in practice. The patient had been attended by a midwife, and there was extensive suppuration, requiring numerous incisions.

In those days permanganate of potash and Labarraque's solution were the principal antiseptics in use. None of the other cases suppurated.

Dr. W. B. Chase: To me it is an unalloyed pleasure to listen to so clear and complete an elucidation of a subject as Dr. Raymond has presented in his paper.

My experience with phlegmasia is exceedingly small. Several years ago I saw one or two slight cases which recovered spontaneously, in which the patients were never troubled with abscesses.

This paper raises a good many questions, but the one which most interests me is the source of infection in cases, not only like Dr. Raymond's, but the source of infection of other cases of puerperal septicemia, for this is certainly one branch of septic trouble following labor.

I have been interested of late by some discussion brought forward which calls in question Ahlfeld's assertion of finding pathogenic germs in the vagina. If that is true, it is in conflict with commonly accepted theories of etiology and pathology, that the reason for infection after confinement is not from the presence of germs in the body, but those introduced from external sources. Doubtless a diseased woman may develop various forms of infection after labor which those who are not diseased would not, which would be true auto-infection. Now the claim has recently been made by an eminent German authority, Koenig, of Leipsic, that the vaginal secretions of a normally pregnant woman are free from pathogenic germs, but that they have the power of destroying pathogenic germs, and for that reason, under normal conditions, septicemia is not likely to follow unless germs are introduced from outside. We should take, in this connection, the facts ascertained principally by Germans, and also by some gentlemen in this city and elsewhere, that in those cases where no vaginal examination is made during labor infection almost never takes place. If it does, it is probably in those cases already previously diseased. This opens up this whole question again—what is the source of the infection? The fact, however, remains that phlegmasia is so infrequent in these latter days, and puerperal septicemia is almost unknown where no vaginal examination is made. In saying this, there is no suspicion that any germs were introduced in Dr. Raymond's case. I presume they were not.

With regard to the question of antiseptics previously to labor, I have reached this conclusion myself that, after having thoroughly sterilized the external genital organs and the external parts before labor, that is sufficient in ordinary cases, and I believe it is a travesty on nature that finds a normally healthy woman in a condition that it is necessary to sterilize the genital canal before labor. It is my belief that if we sterilize the external parts and keep our fingers out of the vagina unless it is necessary to put them in, our patients will do well.

Dr. J. L. Kortright: We are all impressed with the completeness of Dr. Raymond's paper, and yet the very point I came to

hear he has not touched upon. He mentions in his own case that on the third or fourth day very large clots came from the uterus. I have had the misfortune to see three cases of phlegmasia dolens where I attended the confinement myself. The first one was a girl about seventeen years old, who, immediately after the birth of her child, before the placenta was delivered, had an enormous post-partum hemorrhage, so that her pulse became 180 before we could get the uterus emptied. In the second case I cannot recall any of the facts regarding the amount of blood lost during the labor. The third case was one of those cases of accidental ante-partum hemorrhage. The woman lay down at 5 o'clock in the morning and commenced to flow, and it was 9 o'clock p.m. when I delivered her of a dead child, followed by the placenta and a large amount of clots. On the eleventh or twelfth day she developed phlebitis of one thigh and then of the other. There was complete recovery. All of these cases got well without suppuration. My treatment is to apply warm flax-seed-poultices diligently over the entire limb from the groin to the foot, and give large doses of iron, and such other symptomatic treatment as may be necessary.

Regarding the use of douches prior to labor or subsequent thereto, my own practice is that the patient takes a thorough bath and no douche at all, unless she is a primipara and the cervix is rigid, in which case I simply use a hot douche, without any antiseptics whatever. After labor I seldom give a douche until after the third day. Patients testify to the comfort of a vaginal douche after the third day, and that is my practice where there is good nursing attendance, and they say they feel cleaner after it.

Dr. Frank Baldwin: I feel especially interested in Dr. Raymond's paper, as I have just been attending a case of phlebitis, though I may say with a feeling of gratitude for my deliverance that it was far less severe and protracted than the one of which we have heard this evening.

On the evening of February 3d I was called in haste to attend a woman in her third confinement. As I found the perineum already being pushed back by the descending head, no digital examination of the genital tract was required. A little later, after the delivery of the placenta, I ordered a hot, carbolized douche.

As I was applying the bandage to my patient, she requested me to examine a sensitive point on the inner side of one of her thighs, which, as she explained, had been giving her much trouble for three or four days, and had been noticeable for fully

a week. I found a thrombus two inches in length lying about three inches below the ring and a similar one just above the knee. They were as large as my thumb, hot, and exceedingly painful. I found her temperature to be $101\frac{1}{2}$. This remained without change for five days, and then fell to normal.

I applied hot fomentations to the inflamed vein and added laudanum to reduce the pain. After three days I changed my treatment to a daily painting with tincture of iodine. Salines were given freely, and the leg was kept raised slightly above the body. No improvement appearing, I stopped the iodine and ordered the application every three hours of the oleate of morphia, acting on a suggestion received from Dr. Jewett. Since I first saw the case, the two thrombi had gradually approximated, and by this time were continuous.

The last remedy certainly controlled the pain better than anything else I had used, and the vein, which felt as large as my thumb, is not now larger than my pencil, though it is still very hard. My patient now seems to be about well. That ivory-like hue of the tissues around the thrombus has given way to a healthy color.

This patient was certainly infected, if at all, by septic material several days before delivery. I feel confident that none was added at that time. There was no history of traumatism. Where could it have come from?

Dr. J. E. Langstaff: I have had two cases of phlegmasia dolens, neither one of which had any complications, but went along nicely, so I have had no experience with that complication.

With regard to confinement, I never use a douche unless there are sufficient indications of pelvic inflammation or septic infection, and I never introduce the hand after the placenta and membranes are taken away.

Dr. Geo. E. Law: My experience is limited to one case, and that was pretty clearly of septic origin. A few hours before attending the woman in her labor, I had curetted a uterus containing a decomposed placenta, and although I had taken unusual pains to cleanse and sterilize my hands, I do not doubt that I was responsible for the infection. The patient recovered in three or four weeks.

I have been very much interested and instructed by the Doctor's paper. In one point my routine treatment differs from his. He said that on the third or fourth day large clots were expelled from the uterus. It is my custom in such cases to curette and

wash out the uterus, and in the cases where I have done so I have usually found some fragments of membrane or placenta.

In regard to douches, I do not use them as a rule, not unless there is some special indication for using them.

Dr. Wm. H. Skene: I have been interested in Dr. Raymond's paper. I have seen quite a little of the patient with the Doctor, and hence was prepared to appreciate the history as given by him.

I have seen one other case where I curetted a cancerous uterus and cauterized it. In a few days after operation she developed phlebitis, which very soon subsided under the treatment of heat, raising the limb, and applying equal parts of belladonna and glycerin.

Dr. W. B. Chase: There was one case which I intended to allude to, which had some things in common with the case presented by Dr. Raymond.

The patient came under my observation in the month of October, 1888, two or three weeks after confinement, with very well-marked symptoms of puerperal septicemia, which soon afterward developed into phlebitis, with successive abscesses forming along the great vein of the thigh all the way from below Poupart's ligament to the ankle. I suppose during the ten or twelve weeks she was under my observation half a dozen abscesses were opened, but they healed one after another. It was a most trying case, and I congratulated myself when the husband decided to have the woman taken to the hospital. The persistency with which these abscesses repeated themselves was astonishing. She was taken to the hospital, and after remaining there for some months she finally recovered.

The President: It occurred to me while Dr. Chase was speaking that there must be very few cases of confinement attended without an examination. I do not think I ever attended one, if I have been present in a room with the patient, and I hardly see how a man can attend a patient in confinement without making an examination. It would be universally demanded by the patient and the friends, and I scarcely think that many men possess the skill to make a diagnosis of position without an examination. Sometimes it is hard enough after making an examination to positively make out the position.

I do not believe that this disease is so infrequent as has been stated here to-night. Almost every gentleman who has spoken has had some experience, and there may have been slight cases

which are not remembered. In Dr. Raymond's case the previous history of the patient was at least very unhappy. She was born before she ought to have been, she was sickly, had an attack of perioritis, enlarged veins, had to work very hard, and there may have been something in her system which predisposed to this trouble.

I have had three cases, and I have not had a very large obstetric experience. In the first one the mother had been a chlorotic girl, her father a diabetic, and in her mother's family two or three had spinal curvature—not a very nice previous history. Another patient had nephritis; lost her baby at the seventh month, developed slight phlegmasia in both limbs, and both got well without suppuration. The application that I have been in the habit of making is equal parts of aqua ammonia and tincture of iodine, painting it on with a camel's-hair brush. I had an attack of phlebitis myself, and I found that it made me more comfortable than any other application. I have been in the habit of putting on an oil silk next to the skin, which preserves an equal temperature, and packing it around with cotton, making the bed for the leg very soft. I have a case now of a young woman who had both ovaries removed nearly a year ago, at the hospital. Dr. Palmer did the operation, and she had an attack in her left leg about six weeks ago. She had pains returning there, and she is now suffering from pain, although not very much; but above on the left side there is a growth of some kind. I do not know its exact nature. She is suffering a great deal, and is in bad condition.

I have never seen a case of confinement occur without some laceration somewhere, and sometimes considerable. I know that it is the practice of some members of this society to wash out the uterus after each confinement with some antiseptic solution and hot water, and that a particular physician, to my certain knowledge, had two cases of phlegmasia last year.

Dr. Raymond: There are one or two points to reply to. It seems to me that if disinfection is worth anything, there is more reason why we should disinfect the hands than why we should disinfect the genitals. Dr. Chase, if I am not mistaken, counselled disinfection of the external genitals before confinement. Why do that? If the disinfection of the hands is not a protection, why disinfect at all? I agree with Dr. Chase perfectly that digital examination should not be, so far as possible, carried on. In this particular case the labor was well along before I got there. The head was within a very few inches of the vulva, and the finger

was not introduced into the uterus at all, and into the vagina only enough to make out the position, which was L. O. A., and I can hardly imagine any case of confinement in which, if one used any intravaginal examination, he could have done it to a less degree than was done in this particular case. It was an easy case to diagnose, and there was no necessity for it. How many cases we have where we not only introduce the hand into the vagina, but even into the uterus, in cases of turning and for various reasons, that are not followed by sepsis in any form! So that if we disinfect the hands thoroughly we are safe. If that examination introduced any germs, then no examination ought ever to be allowed in any case. The nurse that took care of the patient from the beginning is an excellent one. If you ask Dr. Dickinson, he will tell you that he places her very high in his list of nurses. Her treatment all the way through, so far as antiseptic precautions are concerned, was most admirable. I can hardly imagine a case more favorable for the carrying out of antiseptics than this particular case.

In reference to the clots, I did not say that these clots came from the uterus. I think they were expelled from the vulva. My experience is that it is not an infrequent thing in two or three days after labor to have clots expelled; and I think they come in the majority of cases from the vagina. The vagina is expanded, and the walls, more or less paralyzed by the labor, remain in that condition and blood clots there; and unless patients sit up once during twenty-four hours, these accumulate. If possible, I get the patient to sit up on the bed-pan, in order that these clots may be expelled. I am quite positive they did not come from the uterus. The uterus was well contracted from the first. There were no pains of expulsion as if clots of this size had come from the uterus.

As to curetting, it did not seem to me there was any indication for curetting in this case. Dr. Dickinson saw the case before the phlegmasia developed, and he was decidedly of the opinion that it was malarial, but in order to make assurance doubly sure the uterus was washed out with peroxide of hydrogen. No pieces of membrane came away, nor was there any evidence of retained membranes, and the lochia were never for a moment offensive. The only thing that looks at all as though some septic process started from the uterus was a little tenderness in the right iliac region. I thought, as Dr. McNaughton suggested, that possibly this varicose condition of

the veins, noticeable in the lower extremity, might have existed in the veins of the pelvis, and that that might have predisposed the patient to this form of affection ; but at the same time, the formation of pus and the presence of the streptococcus, which, of course, gave rise to the pus, all seemed to indicate that the case was of septic origin. I think there can be no doubt about that.

Unless I am very much mistaken, the best authorities at the present time regard the streptococcus pyogenes as being always present in the vagina, and that it is not a form of bacteria which is destroyed by the other bacteria found in the vagina, but that it exists there with them. Ahlfeld most recently, and Tillmans still more recently, and the French authority quoted, hardly six months old, all speak of the presence of this germ in the vagina.

It seems to me the case mentioned by Dr. Frank Baldwin was not a septic case at all. It began before the labor, and I should think was a case of pressure thrombosis.

The interesting point in my case is the early appearance of the phlegmasia. The authorities state from the twelfth to the twentieth day. In this case, if we may regard the rise of temperature and pulse as the beginning of the trouble, it occurred on the fourth day, although it was on the ninth day that the swelling began.

Dr. Kortright : Was there no post-partum hemorrhage ?

Dr. Raymond : None at all. There was a lacerated perineum, and I might add, to make the history complete, that the union was not good. We used catgut sutures. There was one silk suture superficially, but the relatively deep sutures were catgut. The depraved vitality seemed to show itself from the very start.

Dr. Matheson : Were they purchased sutures, or prepared under your own supervision ?

Dr. Raymond : No, they were not prepared under my own supervision.

Dr. Matheson : They may have conveyed the disease.

Dr. Raymond : The condition of the uterus after confinement is such that there is no necessity to look for an absorbing surface in a lacerated perineum ; we have it in the uterus.

Dr. Kortright : I have a case to relate that caused me great trouble. It has, I think, a bearing on the subject under discussion. It was my first fatal case, and the second serious one of puerperal septicemia.

Mrs. Louise S., twenty-six years, primipara, descendant of a

Mayflower pilgrim, was confined Dec. 31st, 1894. The following minute was made at the time of birth: Membranes ruptured at 1 A.M. Pains began immediately, first position, breech, *i.e.*, left trochanter at right ilio-pectineal eminence; legs extended on thighs so that feet are over shoulders; child, male, small, born at 5 A.M.; slight median laceration of fourchette, no sutures; secundines entire in ten minutes; good uterine contraction.

For eleven days there was no rise of temperature. The lochia were never offensive. Bowels moved after a dose of castor oil on third day. There was abundant secretion of milk without soreness of nipples. On the twelfth day, while sitting up, the patient had a chill. Medical advice was first sought on the seventeenth day. At that time the temperature was 103; there were violent purging, tympanites, pain, and tenderness in each iliac fossa. * Examination revealed a small, hardened mass in the pouch of Douglas. A few small doses of bismuth and morphine quieted the pain and relieved the violent purging. The abdomen was poulticed. There was no tenderness of the uterus, which could be felt firmly contracted. There was no vaginal discharge. Douching brought a few clots without odor for several days. The temperature remained uniformly high. On the 24th day Dr. Jewett saw the case in consultation. At that time there was a soft, blowing murmur at the apex of the heart and a general infiltration of the parametrium, but no localized collection of pus. There had been occasional attacks of diarrhea of short duration. Patient was taking a good amount of fluid nourishment, but was emaciating. Temperature had fluctuated between 100 and 104° F. On the twenty-sixth day symptoms of pericarditis showed themselves, and on the twenty-eighth day a lobar pneumonia of the base of the left lung began. Crisis of the pneumonia occurred on the thirty-third day. On the thirty-fourth day the temperature ran up to 105, and pain occurred in the right iliac fossa, with tympanites. Patient grew very anemic and sallow. On the thirty-seventh day patient suddenly developed general convulsions, with dilated pupils, partial loss of consciousness, and delirium. Temperature, 99; no abdominal pain or tenderness, but constant tympanites; blowing systolic murmur at apex of heart. Death thirty-eighth day, from exhaustion and subnormal temperature.

The points of interest are the late appearance of the symptoms, the severity of infection, the septic endocarditis, and the cerebral attack, embolic or thrombotic, and the difficulty of finding where

the infection occurred. While I was attending her I attended ten other women in labor, none of whom had a temperature.

Dr. Chase: If that case of Dr. Kortright's had been under any other condition except in the puerperal state, it would not have been as puzzling. Of course, to say where the sepsis arose in this case would be a difficult matter, but it presumably arose in some inflammatory affection outside the uterus and the absorption of pus from some small cavity. But I do not see that he has anything to regret in the case; I think he did his duty. The patient had made a fair convalescence so far as possible under his observation, and it is one of those accidents over which we cannot exercise control, therefore he should not be held responsible for what happened after her discharge.

Dr. L. G. Baldwin: I do not think we ought to consider septic infection in the next two or three months after a patient is confined as due to her labor necessarily. I should believe this case to be a salpingitis and the trouble from a pus tube or an abscess in the ovary; and the mere fact that there was no localized collection of pus to be found I do not think precludes the necessity or advisability of an exploratory section of the abdomen or vagina in such case. It seems to me, in anything so urgent as the symptoms the Doctor recites, that the rational and proper treatment would have been to explore the pelvis in some way, either by abdominal section or by the vagina, and find out if there was a collection of pus.

Dr. Kortright: That was considered, but she was in a very serious state.

INOPERABLE CASES OF CANCER.

Dr. John O. Polak informs us that inoperable cases of cancer of the breast or uterus, whether able to pay board or not, will be gladly received at the clinic for Diseases of Women, at the Brooklyn Throat Hospital, corner of Bedford avenue and South Third street. With the consent of Professor Charles Jewett, chief of clinic, he is employing the injections of mixed toxins, as practiced by Coley, pyoktanin, and subcutaneous injection of arsenical solutions. Dr. Polak's effort is to get a sufficient number of such cases to treat, so that the results will have clinical value.

Physicians who send cases to him are cordially invited to follow the subsequent course of their patients.

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JOHN BYRNE, M.D.

In honoring Dr. John Byrne, the Brooklyn Gynecological Society honored itself still more. No gynecologist in the city of Brooklyn has a wider or more deserved reputation than he, and Dr. Grandin echoed what we doubt not is the sentiment of the entire profession of New York, when he said that one of the strongest arguments that have persuaded New York physicians that consolidation of the two cities is desirable is that Dr. Byrne could then be claimed as a New Yorker. The tributes to Dr. Byrne at the recent dinner given in his honor, at the Montauk Club, were many and eloquent. One that is specially worthy of mention was that of Dr. Shoop. Referring to the coat of arms which had been proposed to Sir J. Y. Simpson for his adoption—a new-born baby with the motto, “Does your mother know you’re out?”—he suggested that an appropriate one for Dr. Byrne would be a beautiful woman with the motto, “Saved as by fire.” That the treatment of cancer by the galvano-cautery has come nearer to the right to be considered a cure than any other treatment, as Dr. Grandin put it, is generally acknowledged, and for this alone, had he done nothing else in his lifetime, Dr. Byrne deserves the thanks of mankind. That this contribution to the alleviation of suffering and the prolongation of life is not now

appreciated, sad though the fact is, has many analogies in the past and will have many more in the future, but its value will receive due recognition, though the time may be distant. For this Dr. Byrne cares nothing; all he asks is that the benefits which he knows it possesses may not be denied to suffering woman.

We shall give a full account of the dinner in the next number, with a portrait of the distinguished gynecologist.

♦♦♦ — —

BURGRAF VS. EMERY.

The trial of this cause before Judge Van Wyck, of the Supreme Court, lasted nearly a week, and terminated in a disagreement of the jury—a disagreement, we are informed, based upon a misconception of the testimony. The Court dismissed the suit as to Commissioner Emery, taking the ground that no evidence had been produced to show that he had in any wise departed from what was his duty. And as to Dr. Boyden, the vaccinator, the only question which the Court instructed the jury they had to consider was whether the vaccination was performed in the manner generally practised by physicians, or, as the Court expressed it, “whether Dr. Boyden exercised the care that a doctor should have exercised in the operation of vaccination, to prevent any harm arising therefrom.” The testimony was to the effect that Dr. Boyden did not wash the arm or use antiseptics prior to the vaccination. In this practice he was supported by Dr. McCorkle and others, who testified that they never washed the arm and that they did not regard it as necessary, inasmuch as the abrasion preparatory to the rubbing in of the lymph was in itself a cleansing process, removing everything infective; others claimed that they always washed the arm. From the evidence it was for the jury to decide what was the usual practice, and whether Dr. Boyden departed from it. The jury stood, we are informed, eleven for the plaintiff and one for the defendant. The point, we are told, on which the eleven based their opinion, was that Dr. Boyden, *after* abrading the skin, dipped the ivory point into the glass of water and then rubbed in the lymph, and that this being constantly repeated, using the same water, was liable to produce contamination. If this is the fact, then the uncertainty of the result of jury trials is not hard to understand, for there was not the slightest evidence adduced to support this theory. On the contrary, the uncontra-

dicted testimony was that the ivory point was taken directly from the case as received from the New England Vaccine Company and dipped in the water *before* it touched the arm of the child to be vaccinated, and that any contamination of the water was impossible.

It was our privilege to be present at the trial, and the candor, painstaking care, and skill of Dr. Boyden, whom before the trial we had known only by name, impressed themselves upon us. We feel sure that had the jury fully appreciated the facts a unanimous verdict would have been recorded for the defendant.

We commend to our readers the charge of Judge Van Wyck, published in this number of the JOURNAL, which is a model of excellence, and which displays the thorough grasp of the subject which the Judge possesses.

...

ANESTHESIA.

The 16th of October, 1846, is memorable in the history of medicine as being the day on which Dr. William T. G. Morton made at the Massachusetts General Hospital the first public demonstration of painless surgery; this was the birthday of anesthesia. It is very appropriate that the semi-centennial of this great discovery should be celebrated, and we doubt not that those who can be in Boston on that day, in the year of our Lord 1896, will enjoy a rich treat and participate in a gathering that will be truly memorable. Few of us appreciate the blessing which anesthesia has been to mankind, nor can realize that fifty years ago a surgical operation was accompanied by terrors indescribable.

The International Journal of Surgery Company publishes a "History of Anesthesia or Painless Surgery," by Wm. R. Hayden, M.D., which, beside containing a history, contains also a portrait of Dr. Morton, and pictures of the first practical operation under etherization, and Dr. Morton's first demonstration at the Massachusetts General Hospital.

...

THE KINGS COUNTY MEDICAL ASSOCIATION.

The officers for 1896 are: President, J. C. Bierwirth; Vice-President, L. A. W. Allen; Recording Secretary, F. C. Raynor; Corresponding Secretary, J. Scott Wood; Treasurer, E. H. Squibb.

At the March meeting Dr. L. Grant Baldwin will read a paper on "Posterior Displacements of the Uterus."

PROGRESS IN MEDICINE.

OPHTHALMOLOGY.

BY JAMES W. INGALLS, M.D.,

Surgeon Brooklyn Eye and Ear Hospital, Assistant Aural Surgeon New York Eye and Ear Infirmary.

WHICH CANALICULUS TO SLIT IN PROBING THE NASAL DUCT.

Story (Ophthal. Review, Vol. XIV, No. 164, June, 1895) expresses the belief that in cases of lachrymal obstruction it is better to slit the upper canaliculus rather than the lower. "It might seem a matter of no importance whether the upper or the lower canaliculus is selected to suffer the necessary mutilation, but the choice is not a matter of indifference; the results are far better and more easily attained by selecting the upper instead of the lower. . . . It is somewhat remarkable that the merits of the upper canaliculus have been so neglected, for in Graefe and Saemisch's "Handbuch," Arlt, after describing all the various methods of operating for lachrymal obstruction, states positively that the upper canaliculus is to be preferred for two reasons: (1) that probes can be passed more easily, with less twisting and twining, and (2) that subsequent loss of function in the canaliculus is less injurious when occurring in the upper than in the lower canaliculus. . . . My own [Story] practice dates from many years back, and was adopted in consequence of my observing many patients who had been treated by division of the lower canaliculi, whose nasal ducts were perfectly patent, but who, nevertheless, still suffered from constant epiphora and whose watery eyes were noticeable to the most casual observer.

"Since I have divided the upper canal, I may have failed in some cases to obtain a permanent patency of the nasal duct, but I have never failed to relieve the epiphora in the cases in which I succeeded in curing the stricture of the duct."

OCULAR DIPHTHERIA TREATED BY ANTITOXIN.

Coppez and Funck (Archives d'Ophtalmologie, Nov., 1895, pp. 685-696) give a *résumé* of eight cases of diphtheritic con-

conjunctivitis, treated by antitoxin. The first five of the series made good recoveries; the sixth case, both corneæ were perforated; child subsequently died of broncho-pneumonia. In the seventh case, also, both corneæ were perforated, and he died from septicemia; eighth case, cornea had sloughed before treatment was begun. Fauces were involved in all the cases. The first case deserves notice, inasmuch as in about two months after recovery from diphtheritic conjunctivitis in the right eye, the left eye was attacked with the same trouble. In this connection the authors call attention to Abel's case in which the diphtheritic bacilli were found in the mouth of the patient sixty-five days after the disappearance of the membrane from the fauces.

ACTION OF LIGHT ON THE YELLOW OXIDE OF MERCURY.

Holth (Archives of Ophthalmology, Oct., 1895, pp. 486-497; translated by Chas. H. May, M.D.), after a series of experiments, gives the following practical conclusions: 1. Decomposition of the yellow oxide of mercury, showing itself in grayish discoloration, is not due to chemical changes produced in the ointment base, but is *dependent entirely upon the reducing effect of light passing through the more or less transparent walls of the ointment-pots in ordinary use*. Violet light probably exerts the most effect in this direction. 2. This decomposition is not influenced by temperatures between 0° and 3.0° C. 3. It is not caused by access of air. 4. Any ointment-pot may be used if kept in a dark place. 5. The use of absolutely opaque pots provided with similar covers is the most practical way of avoiding decomposition. . . . Metal covers, though opaque, are not suitable, since amalgamation with the oxide of mercury would result wherever the ointment comes in contact.

ATROPINE CONJUNCTIVITIS.

Ahlström (Klinische Monatsblätter für Augenheilkunde, Dec. 1895, pp. 437-444) concludes, after a series of observations, that the irritation which in certain cases follows the instillation of a solution of the sulphate of atropia in the eye is caused by the atropia itself. Hirschberg and others have claimed that the conjunctivitis was not caused by the atropia, but by micro-organisms in the solution. Ahlström sterilized his solutions by boiling in a test-tube, but in spite of this precaution in certain cases irritation followed the use of atropia.

PROCEEDINGS OF SOCIETIES.

BROOKLYN SOCIETY FOR NEUROLOGY.

At the annual meeting held at 356 Bridge street on Thursday, December 26, 1895, Dr. C. F. Barber was elected president and Dr. A. C. Brush secretary. Dr. H. Elliott then read a paper entitled "Insanity of Pubescence."

ABSTRACT.

At this period the brain is a cluster of developing nerve centers. Ingoing stimuli reissue more directly and are less modified by inhibition and ideation.

Healthy growth and discharge of function give rise to sensation of pleasure. Healthy developing youth enjoys the height of felicity, and the development of the procreative functions adds to his physical perfection. This view is at variance with the opinions of certain authors. The acquisition of the sexual function is very important, and to its healthy activity all other functions are subservient. It exists only during the best period of life, and removal before maturity destroys all sexual characteristics. The grave symptoms arising from slight lesions of these organs is another proof of their importance.

Youth is a period particularly liable to the development of neurotic and catarrhal conditions.

It is maintained that puberty is a period when sexual ideas suddenly develop, but a large number have a knowledge of these subjects or have abused these appendages long before this period.

A large proportion of men have masturbated (Keyes); and if these organs are so sensitive it is illogical to try and explain the rapid onset of insanity after puberty by discussing the reactions between the mind and the body. It is sufficient to know that the mind cannot act normally if kept in a state of irritation and exhaustion. In these insanities there is not the same tendency to conform to type as in the adult, because individual characteristics are not developed. In healthy youth the mental state is never fixed, it is ever changing. In childhood insanity shows itself almost entirely in the conduct; occurring as a pure insanity only in children who have masturbated since an early age, and

who have but little mind to be affected. These are puny, with pasty face, sunken eyes, dilated pupils and exaggerated reflexes, restlessness, fits of anger with homicidal tendencies, wanton destruction or cruelty, timidity, lack of curiosity and memory, irregular sleep and capricious appetite.

In older children the mental changes are more marked and show a rapid alternation between exaltation, depression, and stupor. The whole economy is in a state of irritation. There may be vague or well-marked delusions, ambitious, depressing, or persecutory. At adolescence the mental phenomena become more marked, and in those with well-marked mental or physical characteristics, especially if not addicted to bad habits, there may be typical melancholia or mania. In undeveloped brains, idiocy, cretinism, and paranoia also manifest themselves at this period. It is the lack of type that has given rise to the term insanity of pubescence.

Heredity is an etiological factor in nearly every case. Improper bringing up of children also predisposes to neuroses, especially trying to prolong the babyhood.

Of the exciting causes masturbation stands first. It not only causes insanity in youth, but also in the adult, and it aggravates the symptoms in any case. Other causes are overwork, ill health, trauma, shock, grief, and disappointment. Insanity under 17 years is rare, because youth is a recuperative period, and the struggles of life, its dissipations and child-bearing, have not yet occurred. About 600 in 22,231 become insane during the four years following puberty.

All forms of insanity seem to be ushered in by depression. They are restless, irritable, taciturn, puny and thin. Face pale and pinched. Eyes watery and shifting. Hands cold and clammy. The development of all the tissues, especially fat and connective tissue is defective. The sexual characteristics are defective. This is followed by multifarious symptoms from stupor to excitement, silence to raving, from laughter to weeping, these patients rapidly change their symptoms. Mania is said to be the most common, but in my cases painful mental states have been. Many cases pass into delirium and die. Most of the cases recover, others become demented, and in others the explosive symptoms continue for years. In these, delusions of poisoning, contamination or the condition of the viscera, or that the patient has become divine are common.

Statistics show that 28 per cent. recover under 21 years,

23 between 20 and 30, showing that mental troubles in youth are not hopeless. Recovery is often complete. A small number die and others pass into dementia.

Treatment indications are to remove the irritation and repair the exhaustion by quiet, pleasant surroundings, remove any local cause of irritation. Careful watching to prevent the habit. Bromide of potassium or hydrobromate of hyoscine to lessen the desire. Hot spray baths, open-air exercise, tonics and cod-liver oil, generous diet and very few sedative doses.

Cases which refuse must be fed by tube, with milk, eggs, and peptonoids. If great excitement exists, large amounts must be given. In stuporous or cataleptic cases small amounts alone should be given.

Patient should be kept quiet, but not left alone, and encouraged to sleep. Noise should be put up with. If insomnia lasts for forty-eight hours give hyoscine 1-80, morphine 1-5. Hyoscamine should not be used, but hyoscine to control the frenzy; but the hot bath or a tumbler of hot milk with whisky should first be tried. Physicians often get too anxious about the insomnia. In most cases sleep will come unbidden.

DISCUSSION.

Dr. Browning : The paper brings up many things. A large class date from before puberty. They show mental peculiarities and become paranoiacs, perverts, or a class of young persons who habitually act in disregard to the wishes of their parents and a class who develop insanity. This is most common in young girls, especially Germans. Some recover. The various manifestations tend to a melancholic condition. Dr. Elliott emphasizes the sexual side. I do not suppose that all are masturbators. Puberty is an age at which demands are made upon the person, and peculiarities which were before considered as childish are noticed. The child is not equal to cope with the world, and the strain is not simply a sexual one. I question whether the sexual side is as predominant as often believed.

Dr. Shaw : I agree with Dr. Elliott, and do not think of classifying these patients as insanity of pubescence, because very many different forms are thus classed together. These are ordinary cases, but are not as clearly developed in the child as in the adult. To call them insanity of puberty is to simply jumble the cases together. I never recommend the works of English authors, such as Clauston. A large proportion of these

cases, not including imbecility, are undoubtedly paranoiacs, but not fully developed. Dr. Wells has reported a number of such cases, but avoided any designation, calling them insanity in children. I agree with Dr. Elliott that they are usually hereditary. Cases developing toward puberty do so, not from running down of their physical condition, but from the unstable condition of the nervous system, resulting in its premature decay. One person will develop a mild melancholia, which never becomes acute, but rapidly passes into dementia. As to masturbation as an etiological factor, from a large experience I believe that it has nothing to do with it. It is only an evidence of the weakness of the child. It is the result of the weakness of the higher centres. As a cause I don't believe in it. If that were a cause we should have more insanity than we do. Of Dr. Brown's cases of young women who are strange and wilful, I have seen a number of cases. The patients were quite intellectual and presented no evidences of insanity. Two became loose women. There is a strong taint of insanity in them and they are incomplete paranoiacs. They are very interesting cases and do ridiculous things. I do not think much of statistics: because we do not see these cases when they are received into the asylum, and the asylum loses sight of them in private practice. Some develop imperative conceptions. A large class recover and do remarkably well. Paranoiacs are the most unfavorable, yet some seem to recover unless subjected to critical examination. I treat the defective nutrition and the nervous system. The majority sleep well. I do not adopt Dr. Elliott's plan in private practice: you are driven to give the patient something—usually one of the simple hypnotics, as trional, chloral or hyoscine with morphine.

Dr. Wells: The doctor has given us an excellent paper. These cases present such a great variety that classification is exceedingly difficult. One case seen with Dr. Shaw, in which the insanity existed with chorea, and which it was necessary to feed for several weeks, recovered, and has since graduated from a normal school with high honors. Last week I saw a girl of 18 whom I first saw at 14, when she complained of irritability, frontal headaches, and ocular troubles. The girl improved, but a month ago suddenly developed melancholia. I do not agree with Dr. Elliott that masturbation is a frequent cause of insanity. I believe one-half of the youth of the poorer classes masturbate. It may act as an exciting cause in those predisposed. In adults masturbation comes with the exaltation of the insanity. I do not

believe in the insanity of the climacteric period. It means that the patient has reached a period of life when degeneration begins.

Dr. Elliott: As to the etiological relation of masturbation, I have seen this thing so much that I believe in it and nothing else. I have a patient in whom phimosis caused masturbation and insanity. The cause being removed he recovered. Enough has been said here to admit the whole subject. Youth is a recuperative period, and in spite of this pernicious habit few succumb. One other point: There is no other thing that will produce this physical condition, and what is to prevent it from going farther?

ARTHUR C. BRUSH, M.D., Secretary.

THE BROOKLYN DERMATOLOGICAL AND GENITO-URINARY SOCIETY.

THIRTIETH REGULAR MEETING OF THE BROOKLYN DERMATOLOGICAL AND GENITO-URINARY SOCIETY.

A case of lichen planus, presented by Dr. Frederick A. Jewett. The eruption, which is now fading, has existed since November, 1894. The papules were more marked over the fore-arms, abdomen, and legs. The lesion consists of small-sized plaques made up of bright red conical papules, with smooth, flattened tops. At first there was considerable itching.

A case of mixed eruption, presented by Dr. F. C. Raynor. The eruption consisted of a seborrhic eczema on the scalp, face, chest, axilla, and around the genitals. There was also a typical psoriatic eruption of the guttate variety on the extensor surfaces. The patient was shown to illustrate the coexistence of two cutaneous affections. Dr. Holsten thought that these mixed cases went to prove the statement of Professor Unna, that psoriasis was an ultimate development of eczema seborrhoicum.

A case of non-parasitic sycosis, presented by Dr. James M. Winfield. The eruption, which had existed for three years, consisted of a number of pustules underneath the chin. Examination by the microscope failed to reveal the presence of the trichophyton or any other parasite.

THIRTY-FIRST REGULAR MEETING OF THE BROOKLYN DERMATOLOGICAL AND GENITO-URINARY SOCIETY.

A case of dermatalgia, presented by Dr. Samuel Sherwell. A male about 65 years old had been complaining for about a

week with a severe pain over the lumbar region. The zone was limited in extent, it being only about four inches wide. There was no pain on firm pressure, but on the slightest irritation the pain became intense. There were no evidences of zoster.

Dr. Morton presented a case of slow-developing syphilis. The patient was a man 40 years of age who had had a well-marked and unmistakable chancre when 2 years of age; for twelve years he remained free from all evidences of the disease. Eight years ago he then developed a tubercular syphilide, the pigmentation of which is still present. Dr. Morton also presented a case of dermatitis repens of the thigh. Dr. Sherwell gives the histories of four cases of syphilis insontium (extragenital chancre). Two had the initial lesion on lower lip; one was on the tongue, the other on tonsil. Two of the patients were females supposed to have been infected from kissing. The eruption and adenoplasia had followed much more rapidly than in cases of chancre. The tonsillar chancre was a crater-like ulcer with indurated base. The floor was covered with a dirty gray exudate.

Dr. Morton presented a case of infantile eczema from over-feeding, which rapidly improved after a brisk cathartic and corrected diet.

THIRTY-SECOND REGULAR MEETING OF THE BROOKLYN DERMATOLOGICAL
AND GENITO-URINARY SOCIETY.

A case of Paget's disease of the lips, presented by Dr. James M. Winfield.

The patient was an Italian who had had for four years an eczematous-like eruption along the vermilion border of the lower lip. The case had been under the reporter's observation for the last six months, and in spite of treatment there had been no abatement of symptoms. The central portion was beginning to be indurated, and sharp lancinating pains were taking the place of the former itching. The clinical appearance and history so closely resembled those of malignant papillary dermatitis that it was thought that it could be justly presented as a case of Paget's disease of the lip.

Dr. Sherwell was inclined to think that the diagnosis was correct, and recommended a thorough trial of a strong solution of resorcin; this failing, would advise caustic or excision. Dr. Holsten agreed with the diagnosis and did not believe in employing mild measures, but to resort to cutting at once. A

case of reflex eczema from an adherent prepuce, presented by Dr. Raynor. The patient was a child two and one-half years old. Along the course of the sciatic nerve there were a number of eczematous patches varying from one-half to two inches in size. The doctor proposed removing the prepuce, which would relieve the nervous irritation. He cited the histories of a number of cases which had been under his observation where this measure had resulted in a cure.

A case of vitiligo, presented by Dr. Morton. The patient was a mulatto girl about fourteen years of age. The pigmentary atrophy was more marked over the legs, the left one being nearly white, there being only a few dark lines remaining showing where the edge of the white spots approached each other. Scattered over the body there were a number of pure white patches varying in size from a ten-cent piece to a silver dollar. In discussion Dr. Sherwell spoke of the leucodermic spots seen about the wrists of dark-skinned races; frequently these were the only lesion found on the body. Drs. Napier and Morton spoke of the reported cases of complete leucoderma. Dr. Holsten asked if any of the members had tried the effect of light in this and kindred affections.

A case for diagnosis, presented by Dr. Morton. A woman 40 years of age had consulted him regarding a patch about an inch in diameter, situated at the back of the head, a little over an inch above the hair line. The patch consisted of irregular-sized papules which exuded a viscid fluid drying into crusts; over the unbroken papules there was slight scaling. The hair in the affected area was broken off and appeared lustreless. The broken hair seems to be the result of friction which has been applied to relieve the itching, which at times is quite severe. Dr. Sherwell thought that the loss of hair was not a true defluvium, but was caused by the scratching. He would exclude the diagnosis of *tinia tonsurans* and also *folliculitis decalvans*. He thought this was undoubtedly a beginning *dermatitis papillaris capillitii*. Dr. Holsten said he had seen a similar case, but would not venture a positive diagnosis. Dr. Winfield agreed with the diagnosis of *dermatitis papillaris capillitii*, for the location, papulation, the thickened skin, and the characteristic spreading corresponded to the description given by Kaposi.

A case of gouty pruritus, presented by Dr. Morton. A woman aged 60 had been afflicted more or less with rheumatism for over twenty years. About three months ago she began to be troubled

with an intense general pruritus. After searching for other causes, such as diabetes, etc., the doctor believed this to be one of gouty origin.

Dr. Sherwell related the history of a case of diabetes pruritus where a relapse had been provoked by eating grape jelly. This was a marked illustration of cause and effect. Dr. Holsten considered antimony an important remedy in pruritus senilis. Dr. Winfield thought better results could be obtained from jaborandi.

Dr. Sherwell presented a case of cured lupus of the lobe of the ear. The remedial agent had been the acid nitrate of mercury. It had required only eight applications of the caustic to effect a cure: this was his favorite method of treating these neoplasms. The doctor called attention to the difficulty of differentiating between a beginning true lupus and lupus erythematosus.

THIRTY-THIRD REGULAR MEETING OF THE BROOKLYN DERMATOLOGICAL AND
GENITO-URINARY SOCIETY.

Dr. Winfield presented a case with the following history: Male aged 67; no history or signs of syphilis or tuberculosis. About six weeks before consultation he noted a small ulcer (resembling a canker sore) on the gum over a carious right bicuspid. The process rapidly spread until the whole roof of the mouth, soft palate, and inside of right cheek became involved. The mucous membrane is thickened and greatly congested, covered in spots with a whitish pseudo-membrane, which is hard to remove. There has been but little pain or discomfort. Dr. Sherwell thought it resembled syphilis in some respects, but he would be more inclined to think it disease caused by a distinct organism, possibly mycotic. Dr. Raynor said he had seen quite similar cases, which were caused by leptothrix infection. These cases had their origin from a decayed tooth. Dr. Morton asked if it might not have been herpes, and the remaining ulcer simply the herpetic vesicles which failed to heal. Dr. Winfield said that he had thought of the possibility of it being of parasitic origin, for he recently had seen a case of aspergillus origin affecting the mouth. The eruption in this case resembled the one under discussion. During the discussion on caustic arsenical pastes, Dr. Sherwell said he considered them very uncertain in their action. He spoke of two cases of epithelioma of the nose. In one he had used Marsden's and Cosmà paste: the action was very slow, and the pain slight if any. In the other case he had used one of the red pastes: the action was very severe, and after twelve hours

considerable destruction had taken place. He thought caution should be taken in their use. Dr. Morton said he had had similar experience in the use of these caustics, and expressed himself as being afraid of them.

JAMES M. WINFIELD, M.D., Secretary.

HISTORICAL DEPARTMENT.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

That the change of date of holding the meeting of the State Society was a fortunate one was shown by the remarkably (for Albany at this season) fine weather which did a great deal to make the meeting a pleasant one.

Brooklyn was well represented, not only by a large number of delegates, but also on the executive staff and in the scientific work.

Dr. Maddren as vice-president, Dr. J. M. Winfield on the Business Committee, Drs. Lewis S. Pilcher and Z. T. Emery on the Committee on Hygiene, Dr. Charles Jewett on the Committee on Medical Ethics, and Dr. Fred. Bailey on the Publication Committee, gave Brooklyn a fair official prominence, and the presence of about twenty-five representatives of the County Society, including, besides those mentioned: Drs. Bartley, Butler, William Browning, Cox, Duryea, Fuhs, Hunt, F. A. Jewett, Lucas, Morrison, E. A. Mosher, Myerle, Napier, Pilcher, Bailey, Polak, Schapps, W. H. Skene, Van Cott, Wilson, and others.

During the first session Dr. Charles Jewett, besides taking part in the discussion on "Sepsis of the New-born," read a characteristically able paper on "The Question of Puerperal Self-infection," which he concluded with the following summary of his views:

"There is no clinical proof that puerperal infection can occur from normal vaginal secretions.

"All child-bed infection in women previously healthy is by contact.

"Prophylactic vaginal disinfection as a routine measure is unnecessary, and even in skilled hands is probably injurious.

"Its general adoption in private practice could scarcely fail to be mischievous.

"In healthy puerperae, delivered aseptically, post-partum douching is also contra-indicated.

"These rules must hold good in the simpler cases of manual or instrumental interference in which the uterus is not invaded.

"A purulent vaginal secretion exposes the woman to puerperal infection.

"In the presence of such discharges at the beginning of labor the vagina should be rendered as nearly sterile as possible.

"Concentrated antiseptic solutions should not be used, and the process should be conducted with the least possible mechanical injury to the mucous surfaces.

"In case of highly infectious secretions the preliminary disinfection should be followed by douching at intervals of two or three hours during the labor.

"Sterilized glycerin or other suitable material may be used to restore the proper lubrication of the birth canal.

"The safest and most efficient means for correcting vicious secretions is a mild antiseptic douche repeated once or more daily for several days during the last weeks of pregnancy.

"It is the duty of the obstetrician to know before labor the amount and character of the vaginal discharge.

"Clinically, the amount of the secretion, its gross appearance, and the condition of the vaginal mucous membrane and the adjacent cutaneous surfaces are a sufficient guide to the treatment.

"Probable unclean contact within twenty-four or forty-eight hours before labor is an indication for vaginal disinfection."

Dr. J. H. Hunt took up over an hour of the Tuesday evening session with an address "On the Evolution of Pathology," illustrated by lantern photographs of those who have developed the science, with illustrations from their works.

On Thursday Dr. W. Browning read a paper on "Development of Muscular Atrophy on a Basis of Old Infantile Spinal Paralysis—a Favorable type," and drew the following conclusions: (1) Infantile paralysis is sometimes followed by further atrophy at a later period. (2) The assumption that it is due to extension of cord trouble cannot be accepted, save in a small number of cases. (3) In the young some other peripheral trouble is active. (4) Disease, poor nutrition of the part, and exposure to the cold are prominent factors.

There were also papers presented by Dr. E. H. Wilson on "Serumtherapy," by Dr. H. C. MacLean on "Scorbutus in In-

phants," but the time devoted to scientific business was so much encroached upon by business matters and society politics that they as well as many other valuable papers could be read only by title.

While this session was in this respect an improvement on some of its predecessors, it showed the desirability of a change in the by-laws which would permit the reference of all business matters to a council or executive committee, reserving the society meetings for purely scientific work.

The next President will be Dr. James D. Spencer, of Watertown, and Dr. L. Duncan Bulkley, of New York, Vice-President.

President Roswell Park and Vice-President Maddren are to be congratulated on having secured one of the largest and most interesting sessions which the society has held in several years. Two hundred and sixty-nine delegates, permanent members, and invited guests were present.

RICHMOND LENNOX, M.D.

Richmond Lennox, M.D., only son of Charles S. S. Lennox, was born in Brooklyn, N. Y., June 28, 1861, and died at his residence, 23 Schermerhorn Street, Brooklyn, after a protracted illness on November 14, 1895. His early education at the Brooklyn Polytechnic Institute was followed by a course in medicine at the College of Physicians and Surgeons in the city of New York, from which he was graduated in 1882. After his graduation and a term of service as interne at Roosevelt Hospital, he applied himself to the study of the eye and ear for two years in Heidelberg, Goettingen, Vienna, London, and Paris. On his return to America he devoted himself to his profession. He was a member of the Medical Society of the County of Kings, of the New York Pathological and Ophthalmological societies, of the New York Physicians' Mutual Aid Association, of the American Ophthalmological Society, and of the Brooklyn Pathological Society, and Delegate to the Medical Society of the State of New York. He also held the positions of assistant surgeon, pathologist and curator and microscopist at the New York Eye and Ear Infirmary. At the time of his death he was one of the surgeons of the Brooklyn Eye and Ear Hospital and attending Ophthalmic Surgeon to the Kings County Hospital.

As an ophthalmologist, Dr. Lennox's death will be keenly felt by his professional brethren in Brooklyn and New York,

where his unusual ability and skill were fully recognized. He was thoroughly equipped for his work, possessing not only a well-stored mind, but clear and sound judgment. He was an able and rapid diagnostician, and an operator of great dexterity. He was a progressive practitioner in the best sense of the word, and, had his life been spared, would have been recognized and valued as an authority in his especial branch of the profession both here and abroad. He was already known through his pen, having produced able articles on the development of the crystalline lens, on sarcoma of the choroid, and reports on progress in ophthalmology.

Dr. Lennox was married in 1886, and leaves a widow and two children.

J. S. Prout.	} Obituary Committee.
Arthur Mathewson.	
H. A. Alderton.	

ISAAC H. BARBER, M.D.

Dr. Isaac H. Barber died at his late residence, 36 Lafayette Ave., February 5.

Dr. Barber was at the time of his death one of Brooklyn's older physicians, having been a practitioner among us since 1856. He joined the Medical Society of the County of Kings in 1861, and was at the time of his death sixty-seven years old. He was graduated in medicine at the College of Physicians and Surgeons in New York, in 1851, and spent the time between his graduation and settlement in Brooklyn as physician and surgeon on the old Vanderbilt Steamship Line, which ran to the Isthmus of Panama, and as harbor surgeon at Chagres river.

He was universally recognized as a skilful surgeon, a careful, learned physician, a warm friend, and man of excellent judgment.

His mantle falls on his worthy son Calvin F., who has already won a place in his father's profession and society.

He was at the time of his death a trustee of the County Medical Society, and also occupied numerous other positions of professional and secular honor and responsibility.

A suitable obituary committee will prepare a more complete biographical sketch for a later number of the JOURNAL.

GEORGE WIEBER, M.D.

Dr. George Wieber, who died at his late home, 181 South Fifth Street, was, the writer believes, the last but one of the links which connect the higher medical education of to-day with the time when our State and County societies had the power to license practitioners of medicine.

Though Dr. Wieber was a highly educated physician, having studied medicine at Halle, Marburg, and Giesen, where he is said to have been graduated in 1848, and afterward served as surgeon in the German Army, and again in the same capacity on an American clipper ship, and as surgeon in the First New York Artillery and in the Army of the Potomac during the whole of the War of the Rebellion, he found when he came to unite with the County Medical Society in 1875 that his credentials did not conform to the law as it then stood, and he was accordingly examined by the Board of Censors and by them licensed to legally practice his profession, although he has actually been an honored practitioner in Williamsburg since 1857.

In the old Anatomical and Surgical Society, which at one time did such good practical work on Madison Street, Dr. Wieber was an active and valued member.

Among other things he, while a member of that society, translated and summarized Dr. Alexander von Winiwaster's Statistics of Carcinoma Mammæ, from the Clinic of Professor Bilioth at Vienna (*Annals Anat. and Surg. Soc.*, Vol. I, p. 23, and wrote "Extirpation of the Larynx" (*do.*, Vol. II, p. 234).

He was for five years a sanitary inspector in the Brooklyn Board of Health.

Dr. Wieber was at the time of his death a member of the Kings County Medical Association; of the New York German Medical and Surgical Association; and of Dakin Post, G. A. R.

He was born at Weitzlar, Germany, seventy-one years ago, his father being a Lutheran minister.

The Secretary of the Historical Committee, in moving about among the second-hand book-stalls, has had the fortune to discover a printed copy of the original by-laws of the Medical Society of the County of Kings, printed in 1822, the year in which the society was organized.

It was evidently the property of Dr. Thomas W. Henry, the third president of the society, and contains in his handwriting the amendments to the by-laws and other notes.

Dr. E. H. Bartley is honored with his portrait in the January number of Myers Bros.' Druggist, in connection with a review of the third edition of his Medical and Pharmaceutical Chemistry.

Dr. Eliza M. Mosher, of Brooklyn, has been made professor of hygiene in the University of Michigan, Ann Arbor, and dean of the literary department.

MISCELLANEOUS.

BROOKLYN, N. Y.

VITAL STATISTICS FOR FOURTH QUARTER OF 1895.

BY GEORGE E. WEST, M.D.,
Secretary Department of Health.

	Reported	October	November	December
Reported	Baths.....	1687	1727	2321
	Deaths.....	1794	1439	1989
Deaths from	Small-Pox.....	0	0	0
	Measles.....	11	12	23
	Scarlet Fever.....	6	11	15
	Diphtheria.....	12	10	17
	Croup.....	34	3	32
	Whooping Cough.....	34	15	15
	Typhoid Fever.....	20	17	20
	Puerperal Fever.....	6	3	13
	Diarrheal Diseases.....	99	19	15
	Pneumonia.....	169	211	275
Reported Cases of	Small-Pox.....	0	0	0
	Measles.....	112	239	604
	Scarlet Fever.....	121	197	225
	Diphtheria.....	399	480	730
	Typhoid Fever.....	34	34	36
Death rate of	Brooklyn.....	18.2	16.6	21.2
	New York.....	19.7	19.0	21.0
	Philadelphia.....	16.4	18.0	19.2
	London.....	17.9	18.7	18.0
	Paris.....	18.4	19.2	20.0

NEW YORK STATE MEDICAL ASSOCIATION.

The twelfth annual meeting of the Fifth District branch of the New York State Medical Association will be held in Brooklyn on Tuesday, May 26, 1896. All Fellows desiring to read papers will please notify

E. H. Squibb,

P. O. Box 760, Brooklyn

♦♦♦

The well-known firm of Schulze-Berge & Koechl has been dissolved, and the business will hereafter be conducted by Victor Koechl & Co. at 79 Murray St., New York.

♦♦♦

"Dont's for Consumptives, or the Scientific Management of Pulmonary Tuberculosis," is the title of a book which, under the authorship of Dr. Charles Wilson Ingraham, will soon be issued by the Medical Reporter Publishing Co., of Rochester, N. Y. The complete work of thirty-five chapters is devoted exclusively to the general management of pulmonary invalids, no reference whatever being made to drug treatments. The book will be printed on 72-pound antique book paper, bound in cloth (imitation morocco), with title in gold-leaf. Price, \$1.75.

♦♦♦

THE TREATMENT OF SPRAINED ANKLE.

Gibney contributes to The New York Medical Journal, Vol. LXI, No. VII, a method of treatment that he says involves no loss of time, requires no crutches, and is not attended with any ultimate impairment of function. The method is as follows: A number of strips of rubber adhesive plaster of twelve inches in length and appropriate width are prepared. For a sprain about the external malleolus the first strip is applied, beginning at the outer border of the foot near the little toe and ending on the inner side of the foot about its middle just under the plantar arch. The second strip is applied vertically, and passes from about the junction of the middle with the lower third of the leg, down along the side the tendo Achillis, over the heel, and terminating at a point just above the internal malleolus, but posterior to it. The remaining strips are applied in the same way, each one overlapping the last about one-half of its width, until the whole external malleolus and side of the foot up to the middle third of the leg are covered. It is well to re-enforce just under the malleolus by strips passing

criss-cross so as to give additional support to the injured part. Care should be taken not to completely encircle the ankle, which might cause injurious compression. For sprains of the tarsal or midtarsal joints or other parts the adhesive plaster is to be applied in the same manner, the idea being to give support to the part. —The American Journal of the Medical Sciences.

...

Anthony Baumé, whose portrait is inserted in this number of the JOURNAL, was the eminent French chemist. He was born at Senlis, February 26, 1728, and devoted his time to the study of pharmacy and chemistry.

In 1752 he was admitted as an apothecary at Paris, and in 1775 was elected a member of the Royal Academy of Sciences. He afterwards became a member of the National Institute of France, and died at Carrières, near Paris, March 14, 1805.

He was the author of several works on chemistry and pharmacy.

...

The city of Brooklyn is to be congratulated on the reappointment of Dr. Z. Taylor Emery as Health Commissioner by Mayor Wurster.

In consequence of Commissioner Emery's vigorous action in stamping out the late smallpox epidemic by enforcing vaccination, he is called upon to face a series of damage suits from individuals who feel that their personal liberty to spread the contagious disease was interfered with, damaging them to the extent of many thousands of dollars.

...

OBSTETRICAL POCKET PHANTOM. By Dr. K. Shibata. Translated by A. Howard Audenreid. Philadelphia: P. Blakiston, Son & Co.; pp. 21; price \$1.

This is a very useful little book for the practitioner or the student. The phantom fetus can be adjusted to the phantom pelvis so that the various positions and presentations can be readily understood. It is a handy companion for the obstetrician, and might well occupy a place in his bag, and serve as a freshener of memory in the long waits which attend obstetric practice.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY. Volume 20, for the year 1895. Philadelphia: W. J. Dornan, Printer. Pp. 633.

The 20th annual meeting of this society, which was held in Baltimore in May last, was considered by its members to be one of the best. The papers are of exceeding interest and are reported in full with the discussions.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.

SAUNDERS'S AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY, 1896.

Collected and arranged by Eminent American Specialists and Teachers, under the editorial charge of George M. Gould, M.D. In one royal 8vo volume of about 1000 pages, uniform in size with the "American Text-book" series. Profusely illustrated. Prices: Cloth, \$6.50 net; half morocco, \$7.50 net. Philadelphia: W. B. Saunders, 925 Walnut Street.

The general design of this book is to give physicians an annual epitome of the new and progressive medical truths or suggestions published during the months of the preceding year, from July to June inclusive. The editors have collected their facts from periodicals, newspapers, text-books and every other form of medical literature. The work is an effort to condense into one volume all that is worthy of knowing which has been published for a twelve-month. In short the plan adopted is that which this JOURNAL has endeavored to carry out in its Progress of Medicine, under the supervision of men acknowledged to be experts in their respective departments; only the scale is much greater.

The table of contents is as follows: General Medicine, William Pepper and Alfred Stengel; Surgery, W. W. Keen and J. C. Da Costa; Obstetrics, B. C. Hirst and W. A. N. Doland; Gynecology, J. M. Baldy and W. A. N. Doland; Pediatrics, L. Starr and T. S. Wescott; Nervous and Mental Diseases, A. Church and H. J. Patrick; Dermatology, W. A. Hardaway and C. F. Hersman; Orthopedic Surgery, V. P. Gibney and H. W. Gibney; Ophthalmology, H. F. Hansell and C. F. Clark; Otology, C. H. Burnett; Diseases of the Nose and Larynx, E. F. Ingals and T. M. Hardie; Pathology and Bacteriology, J. Guit  ras and D. Riesman; Materia Medica. Experimental Therapeutics, and Pharmacology, H. A. Griffin and V. H. Norrie; Anatomy, C. A. Hamann; Physiology, G. N. Stewart; Hygiene, Medical Jurisprudence, and Chemistry, H. Leffmann.

AN AMERICAN TEXT-BOOK OF SURGERY. Edited by William J. Keen, M.D. Ph.D., and J. William White, M.D., Ph.D., Second edition. Carefully revised. Philadelphia: W. B. Saunders, 1895. Pp. 1248. Price, \$7. Sold by subscription only.

The second edition contains a considerable amount of new material: New sections on the effect of modern small-arms in Military Surgery; Acromegaly; the Hartley-Krause method of removing the Gasserian Ganglion; Witzel's

method for Gastrostomy; Symphyseotomy, and others of more or less importance.

The fact that this book is used as a text-book in sixty medical colleges in this country speaks sufficiently for its merit and fame.

SURGERY: A PRACTICAL TREATISE WITH SPECIAL REFERENCE TO TREATMENT. By C. W. Mansell Moullin, M.A., M.D. (Oxon.); with 623 illustrations. Third American Edition, Revised and Edited by John B. Hamilton, M.D. LL.D. Philadelphia: P. Blakiston, Son & Co., 1895. Pp. 1250. Price, \$6.00.

Dr. Hamilton has succeeded in bringing the third edition of this well-known treatise fully up to date. It is an interesting fact that it took but six weeks for the volume to pass through the press.

STORIES OF A COUNTRY DOCTOR. Willis P. King, M.D. Vol. 1, Doctors' Story Series. In paper, pp. 396. Price, 50c.

MISKEL: A NOVEL. L. M. Phillips, M.D., Penn Yan, N. Y. Vol. 2, Doctors' Story Series. Pp. 266. In paper. Price, 50c. New York: Bailey & Fairchild Co., 24 Park Place.

The Doctors' Story Series will, we are sure, receive the cordial support of the profession, not only because the volumes are written by physicians, but also by reason of the intrinsic merit of the books themselves. Dr. King's books are too well known to need any notice from us. "Miskel" deals with the wonders of hypnotism and the secrets of the far East. It is claimed to be the outcome of years of study of Hindooism. However this may be, it is certainly very entertaining. We should advise our readers to have both of these books by their side in the office to while away a tedious hour.

SYSTEM OF SURGERY. Edited by Frederic S. Dennis, M.D., assisted by John S. Billings, M.D., LL.D. Vol. 3. Profusely illustrated. Philadelphia: Lea Bros. & Co., 1895. Pp. 919. Price, \$6.00.

We have already had the pleasure of noticing the first two volumes of this system. This, the third, treats of the following subjects: Surgery of the Larynx and Trachea, by D. Bryson Delavan; Surgery of the Mouth and Tongue, by H. H. Mudd; Diseases of the Salivary Glands, by C. B. Porter; Surgery of the Neck, by W. Parker; Surgical Injuries and Diseases of the Chest, by F. S. Dennis; Diseases of the Eye, by G. E. de Schweinitz; Operative Surgery of the Eye, by H. D. Noyes; Surgery of the Ear, by G. Bacon; Surgical Diseases of the Jaws and Teeth, by D. M. Tiffany; Surgical Diseases of the Skin, by W. A. Hardaway; Surgery of the Genito-Urinary System, by J. W. White; and Syphilis, by R. W. Taylor.

The praise we have accorded the other volumes is equally deserved by this. The fourth and last volume of the system is promised shortly.

TWENTIETH-CENTURY PRACTICE. Edited by Thomas L. Stedman, M.D., New York city. In Twenty Volumes. Volume VI. "Diseases of the Respiratory Organs." New York: William Wood & Company, 1895. Pp. 743. Price, \$5.00.

The last volume received by us was the fourth in the series; the appearance of the fifth, on the Diseases of the Skin, has been postponed, but it will be the next one issued.

The subjects treated in this volume are: Diseases of the Nose; Accessory Sinuses of the Nose; Naso-pharynx and Pharynx; Ear; Tonsils; Larynx; Trachea and Bronchial Tubes; and Lungs. The contributors are Winslow Anderson, F. H. Bosworth, A. H. Buck, G. A. Gibson, P. James, E. J. Moure, T. G. Stewart, and J. Wright. The latter well-known physician of Brooklyn contributes the article on Diseases of the Accessory Sinuses of the Nose—the antrum, the frontal, the ethmoidal, and the sphenoidal sinuses—diseases whose importance is better appreciated now than ever before, and for the relief of which surgery can promise much.

ELEMENTARY TECHNIQUE IN HISTOLOGY AND BACTERIOLOGY. By Ernest B. Hoag, A.B., B.S., Instructor in Zoölogy and Physiology, Throop Polytechnic Institute, Pasadena, Cal., and H. Kahn, Phar. M., (Mich.), Assistant Demonstrator in Bacteriology, Northwestern University Medical School, Chicago. E. H. Colegrove & Co., Chicago. 1895.

The attempt of the authors to furnish a clear and concise description of the technique of two of the most important branches of medical science has been successful. There is nothing new in the volume, nor indeed is any claim made that there is, but the instruction is adapted to the wants of the beginner, and nothing is taken for granted in the way of previous knowledge.

A MANUAL OF THE PRACTICE OF MEDICINE. By George Rae Lockwood, M.D., Professor of Practice in the Woman's Medical College of the New York Infirmary, etc. With 75 illustrations in the text, and 22 full-page colored plates. Philadelphia: W. B. Saunders. 1896; pp. 935. Price, \$2.50.

This volume contains in a concise and available form the facts and principles of the practice of medicine. The author is evidently a firm believer in the antitoxin treatment of diphtheria, claiming that during the past year the mortality has been by it reduced one-half, and he expresses the opinion that in treatment be commenced within thirty-six hours the mortality will be still further reduced.

In speaking of vaccination, the author mentions both humanized and bovine virus, and defines the former as being the "scabs of patients vaccinated." He makes no mention whatever of the lymph taken from the vesicles, which, he imagines, in the days when the bovine virus was practically unknown was more commonly used than the scabs, and which to omit when speaking of humanized virus is a serious oversight.

We think that it is a little too strong to say that "complications of vaccination are due to either a lack of cleanliness or to impure virus employed, and should not occur if proper precautions be taken." While care in every particular will undoubtedly reduce complications, still there are instances in which no precautions, however great, will prevent their occurrence. Authors should exercise great care in making their generalizations, as they are oftentimes made use of by attorneys in court to the disparagement of medical men, and the defeat of justice.

MANUAL OF GYNECOLOGY. By Henry T. Byford, M.D., Professor of Gynecology and Clinical Gynecology in the College of Physicians and Surgeons of Chicago, etc. Containing 234 illustrations, many of which are original. Philadelphia: P. Blakiston, Son & Co., 1895; pp. 488. Price, \$2.50.

This Manual contains the essential facts of Gynecology arranged and presented in a practical and convenient form for the student and general practitioner. The author has covered a very large field, and yet has been able to present a book which it is possible to handle without weariness of arm and brain.

A HANDBOOK OF OBSTETRIC NURSING, FOR NURSES, STUDENTS, AND MOTHERS. By Anna M. Fullerton, M.D., Physician in charge of, and Obstetrician, Gynecologist, and Surgeon to, the Woman's Hospital of Philadelphia. Fourth revised edition, illustrated. Philadelphia: P. Blakiston, Son & Co., 1895; pp. 254. Price \$1.00.

This is a very convenient and well-printed manual, which gives such information as to the care of the mother before, during, and after confinement, and of the young child, as every nurse, student, and mother should possess. That it has reached a fourth edition shows that it is appreciated.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS. In photo-lithochromes from models in the museum of the St. Louis Hospital. Paris, Philadelphia: W. B. Saunders, Publisher. Part II. Price, \$3.00.

We have already had occasion to notice this Atlas, which surpasses anything of its kind that we have as yet seen. Part II contains plates of Lupus Erythematosus of the face, Hypertrophic Rosacea of the forehead, Circinate Papulo Squamous Syphilides, Nanthoma Planum et Tuberosum. The reality of these plates is beyond description. To be appreciated they must be seen.

BROOKLYN SOCIETY FOR NEUROLOGY.

Regular Meeting, held at 356 Bridge street, Thursday, January 30, 1896.

Dr. Barber presented a patient with the following history :

The patient, a young athlete, while diving in shallow water, struck on the back of his head, causing a dislocation of the fourth and fifth cervical vertebrae. This was followed by a feeling of tingling throughout the body, and pain in the arms, most marked on the right side. These were relieved when lying on the back, or by extension of the head while in the sitting position. Muscular power much diminished in the flexors of right arm and hand. There were tenderness over the brachial plexus on both sides, increase in all the reflexes, and a hard protuberance in the poste-

rior pharyngeal wall. Extension was made by a juremast sling while in the supine position and kept up a number of days ; then a plaster jacket and juremast were tried, but, the patient becoming unconscious, it had to be removed. A third attempt was successful. The pain in the arms disappeared, and the power returned in the arm at the end of two months. The only symptoms now present are a slight tingling in the hands upon flexion of the neck, and a slight lateral displacement.

DISCUSSION.

Dr. Shaw : I think it is a question if the few remaining symptoms are not due to thickening around the vertebræ and will disappear. Such cases in which you can give relief at once are infrequent. I saw a similar case twenty years ago. You cannot be certain in these cases whether you have a fracture or dislocation. In this case the patient had a fixed position of the head, muscular atrophies, and increased reflexes.

Dr. Barber : I should have added that sensation was retarded in this case. I think he will improve. I do not think it was a complete dislocation.

Dr. Shaw : Of course such symptoms might be due to the squeezing of the cord from the bending without displacement.

Dr. Combes : That would not explain the bony prominence in the pharynx. I should like to ask if it might not have been due to inflammatory deposits.

Dr. Barber : I think not. It was noticed immediately after the accident. It was hard from the first, while inflammatory deposits would then have been soft, and it disappeared upon extension.

Dr. Shaw then gave a short account of three cases of atasia abasia which had come under his care.

He described the condition as very rare. He had seen three cases, one of which was typical. This name was given to the condition in 1888, by a student of Charcot's.

The first case he saw eight years ago. The patient had a peculiar rolling, reeling gait. Seventeen years before she had been confined to her bed for several months, probably with neurasthenia. Since then she had been unable to walk steadily. The gait resembled slightly that of cerebellar disease. There was apparent ataxia. Reflexes normal. No sensory, pupillary, bladder, or muscular symptoms. No other hysterical or neurasthenic symp-

toms. Second case was that of a woman of fifty years of age, who walked with a peculiar staggering gait, sometimes falling. Complained of a feeling as if her legs were being pulled from under her. Charcot supposed this feeling to be due to a peculiar spasm of the legs and pelvis. Her symptoms were always worse when being observed.

Third case was that of a woman fifty years of age, which began with a feeling of numbness in the hands, numbness and tingling sensations in the legs, and slight difficulty in walking. When seen she was in the above condition. Probably in the beginning she had a mild form of neuritis. She was told at that time that she had disease of the cord. Her gait was like that of the second case. She also complained of a feeling of tightness about the body. This case, like the first, was really due to suggestion, the emotions playing a prominent part in the causation. When associated with traumatism we have the two prominent etiological factors of hysteria, but it is rare to have any hysterical stigma in these cases. The treatment is like that of hysteria. In the third case mental influence was produced by gymnastics, and in the first by the suggestion that the patient could walk.

DISCUSSION.

Dr. Barber: I saw the second case. In her the symptoms followed the emotions produced by the death of her husband.

Dr. Brush: I saw the second case a number of times when she did not know that she was under observation. At such time she showed by slight symptoms; it was only just before she entered the examining-room that her gait became marked. The last time I saw her, believing her troubles to be imaginary, I told her so, whereupon she became very angry, and walked out of the clinic without showing any signs of her trouble.

Dr. Elliott: How would you differentiate this condition from *Menière's disease*?

Dr. Combes: I would like to ask if the symptoms are not under the control of the will?

Dr. Shaw: They are not. The condition is one due to weak will-power. The field of consciousness is restricted. In *Menière's disease* the symptoms come on in paroxysms, and are accompanied by nausea and vertigo.

A. C. BRUSH, M.D.,

Secretary.



ANTOINE BAUME.

M^{re} Apoticaire de Paris,
de l'Académie Royale des Sciences.

Né à Sens, le 26. Février, 1728.

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

JOHN BYRNE, M.D., M.R.C.S.E.

DINNER BY THE BROOKLYN GYNECOLOGICAL SOCIETY.

The Brooklyn Gynecological Society gave on January 23, at the Montauk Club, a dinner to Dr. John Byrne, its first president. It was a success in every particular, and will long be remembered by those who were privileged to attend.

The dinner itself was a beautiful one, among the principal features of which was the menu-card, designed by Dr. R. L. Dickinson, a Fellow of the Society.

After the repast, the President, Dr. A. Ross Matheson, said:

"Fellows of the Brooklyn Gynecological Society, and Friends :

"A pleasant custom has long prevailed in the New England States for the several members of a family to come together on special occasions to show their gratitude, respect, and love for their parents. Other relatives and friends were invited to share in their joys and festivities. Business and the thousand and one cares that burden life were forgotten in the good cheer and in the feast. Hearts were unlocked, tongues let loose, and the chorus of voices echoed the purposes of their gathering.

"The Brooklyn Gynecological Society, actuated by like sentiments, and believing that the highest form of hospitality and evidence of esteem is found in a dinner, and being desirous of expressing our admiration, our respect, and regard for one who has long been a distinguished and devoted colaborer in our profession, have assembled here to-night, and with us are other friends of the man whom we are delighted to honor.

"It has been my good fortune to know our esteemed friend for more than a quarter of a century. Well do I remember our first meeting. It was in a garret in an old rookery down in Darby's Patch. I had been called to a complicated case of labor. I was a young man then, a stranger in this great city, with little



practical experience. I need not tell you how encouraged I was by our friend here, who came to assist me, and how I admired his skill, his gentle and painstaking treatment of the patient, and his pleasing magnetic personality.

"Through all these years I have heard his name a household word—his praises in the homes of affluence and luxury, and also and no less fervently in the abode of misery and poverty.

"God bless and preserve Dr. John Byrne, the first president of the Brooklyn Gynecological Society; and we now offer him our best wishes and regards and unitedly pledge his happiness and his health."

Dr. Byrne responded as follows :

“*Mr. Chairman, Members of the Brooklyn Gynecological Society, and Friends :*

“I fail to find words sufficiently expressive of my thanks for the cordial manner in which you have received the toast of your guest of this evening.

“When my friend Dr. Skene, representing the Gynecological Society of Brooklyn, called upon me a short time ago to know if I would consent to be the recipient of a complimentary dinner, in token of the esteem and regard in which he assured me I was held by my *confrères* in that Society, and of which the present social and fraternal demonstration is the outcome, I confess I was not only taken aback, but completely dumfounded. During my long and active professional life in this good city of Brooklyn, I have been so accustomed, from taste, to take a back seat whenever circumstances permitted, and though over-powered with gratitude for such a signal but wholly unlooked-for and unmerited honor, that my first impulse was to beg the privilege of declining. The persuasive eloquence of my esteemed friend, however, being at once brought to bear upon the bulwarks of my irresolution, I was soon made to feel that ‘the coon would have to come down,’ and that there was no other course left but to surrender. Hence I could only capitulate on the best terms obtainable, which were that the affair should be as quiet and as unobtrusive as possible. It strikes me, however, from what I see around me, that, to say the least, a most liberal construction has been accorded to the stipulated terms of peace ; so there is nothing left for me to do but to accept the situation and to console myself with the reflection that I am, not in a political sense, but truly, in the hands of my friends.

“Of my professional career in this city, which is practically my entire professional life of 48 years, good taste, no less than a regard for your forbearance, warns me to be silent. Though, through accidental environment and early training under the guidance of a distinguished European professor of worldwide repute as an obstetrician and gynecologist, my predilection for the special department of medicine, which I gradually and steadily drifted into, never faltered.

“In 1848, however, gynecology, as practiced by its ablest exponents, had not risen to the distinction of a specialty, nor even had the late father of gynecology, the revered and lamented Sims, of illimitable resources, perfected his method of treating

vesico-vaginal fistula. In his anniversary address before the New York Academy of Medicine in 1858, and to which I had the pleasure of listening, he stated that in 1845 he first conceived the idea of curing vesico-vaginal fistula, but that after four years of fruitless labor it was not until about 1849 or 1850 that silver wire was substituted for silk, when, to use his own words, 'Lo! a new era dawned upon surgery.'

"At that period, and for several years thereafter, the obstetrician and the gynecologist were one, nor could an operating surgeon, however distinguished, be found who would turn up his nose at compensation for services even in a case of measles. In fact, all were general practitioners pure and simple so far as their daily intercourse with the sick was concerned, the exceptions, if any there were, being so few and rare as to render this statement only the more in conformity with the rule.

"This was in some respects one of the darkest epochs in the history of our specialty, and much of the baneful effects and influences of false teaching then engendered and unfortunately put into practice took root and remained with us up to a comparatively late date. I refer to the attractive but fanciful conception of morbid processes and their etiology as applied to uterine disease, which originated in France about 1840, and then spread like a contagion to Great Britain, where it found a prolific field and a most enthusiastic exponent in the person of Dr. James Henry Bennett. What we all know now, and many of us believed then, to be a most complex study was dogmatically pronounced to be comparatively simple and quite within the grasp of the most indolent intellect. It was nothing more nor less than that inflammation was the basis and groundwork, the Alpha and Omega, of uterine pathology. Local depletion took first rank in the treatment and was sometimes produced by curious little devices like miniature harpoons: at other times by leeches which, like laparotomy sponges nowadays, needed counting before and after treatment. Indeed, I myself can bear testimony to the escapade and total disappearance of a wandering leech of exploratory proclivities. However, as the patient, out of regard to her own interest and peace of mind, was not then or ever after informed of the accident, I confess to this day I have never seen or heard aught of that little reptile. That the aforesaid leech was a victim to over-zeal in the pursuit of knowledge and in pastures new, and a reckless disregard of the eternal fitness of things, there can be no doubt.

“Inflammation and congestion and pseudo-ulcerations of the luckless cervix were made to succumb to local antiphlogistic measures, and, if at all rebellious, the means employed were proportionately heroic. For example, potassa cum calce, and even the hot iron, were employed to insure the ‘*melting-down*’ process, as it was then called, while lost epithelium was to be promptly restored by nitrate of silver, and weeping Nabothian glands were made to dry up by a stick of the same magic material.

“As to diseases of the uterine adnexa, they were all, with great convenience and simplicity, grouped under the head of pelvic abscess, or pelvic cellulitis, and treated, if not cured, accordingly.

“The period during which Providence permitted this kind of practice to flourish I would be afraid, if not ashamed, to say, though its weakening struggle for existence continued until a time within the memory of most of us. In this era, too, it is worth while to remark that clinical teaching of diseases of women in this country had a hard struggle for recognition; so much so, that popular sentiment, encouraged by the public press, protested against speculum examinations before a class. Indeed, it may be of historical interest to state also, in this connection, that an able and progressive professor of obstetrics in New York was threatened with mobbing for having disregarded the popular edict of the times.

“During the decade ending with 1870 it was evident, from the *Transactions* of the New York Academy of Medicine, the Obstetrical Society, and other organizations throughout the country, that a new era had already dawned for gynecology. Uterine pathology had not indeed changed in any essential particular, but the sexual maladies of women, like other bodily infirmities, began to be considered, not as a distinct pathological entity, but, for the most part, controlled and influenced by morbid changes of systemic origin. A broader and more philosophic scope was vouchsafed to the study of uterine disorders as well as disease, and topical measures, together with meddlesome and mischievous tinkering, gradually succumbed to pathological common-sense. In 1876, the centennial year of our national independence, the American Gynecological Society was organized, and from this period on the history of our specialty has been one steady onward march toward perfection, mainly in the line of abdominal and pelvic surgery.

"Before dismissing this brief reference to gynecology of the past, I feel that it is due to the pardonable *amor propria* of this society to state that, at the period just mentioned (that is, 1876), a distinguished member now present performed and published the first successful case of gastro-clytrotomy on record; and that another gentleman, also a member of the Brooklyn Gynecological Society, as early as 1861, offered his first contribution to the literature of this specialty in the shape of a paper read before the New York Academy of Medicine. The subject, being one which had been overlooked or hardly touched upon previous to that time, at least by English-speaking authorities, created unusual interest, and called forth a more detailed *resumé* of its literature in the following year.'

"This disjointed and cursory glance at ancient history, with all of which I myself have been contemporary, illustrates by contrast the rapid and almost phenomenal progress of gynecology during the past twenty years—a progress which, in the history of scientific medicine, is probably unparalleled.

"But, my friends, there is another matter which, if not already apparent to all, I at least feel too conscious of, and it is this: that one who has occupied himself for nearly half a century with practice exclusively should not at this late day attempt the rôle of preacher or orator or after-dinner speech-maker. I have carefully omitted discussing the modern triumphs of gynecology, because you are all fully conversant with these matters, while not a few have already become distinguished in the field of abdominal and pelvic surgery. Besides, we have in our midst to-night gentlemen whose oratorical powers, no less than their practical familiarity with modern gynecology, should enable them to do more justice to the subject than I dare hope to do.

"In conclusion, my friends, I have only to thank you again for this cordial manifestation of your valued friendship and goodwill."

The President then gave the following toasts:

"**BROOKLYN:** A great city whose unalterable boundaries are the strong arm of the sea, the magnificent bay of New York, and the boundless, endless ocean: a city of good repute, of homes, of churches, of schools, of brave men, and virtuous women. Brooklyn for Brooklynites."

To this toast District-Attorney Foster L. Backus responded: "As soon as a young man is ashamed of his mother that man

ought to be born again; and a man who is ashamed of his city, that man ought to be born again. Therefore I am proud to respond to the toast 'Brooklyn, the City To Be Born Again.' Standing above ministers of the gospel and ministers of the law, is the man who attends us in the most sacred hours of life. I wish that this glorious society of yours could instruct the people of this city to exercise as much care in bringing up their children as is spent on hogs and horses. Better in limb and better in spirit is the end toward which the children of to-day should be led. If there is any profession that should be in league with the legal profession it is the medical profession, and there is no specialty more intimately related to the welfare of our city of homes than yours. I hope for you, Dr. Byrne, long life in the City of Brooklyn, and that you will always be our dear old Dr. Byrne."

"THE PRESS.

Mightiest of the mighty means
On which the arm of progress leans ;
Man's noblest mission to advance,
His woes assuage, his weal enhance,
His rights enforce, his wrongs redress—
Mightiest of the mighty is the press."

"The name of William Cullen Bryant for many years represented what was true and noble in journalism.

"A gentleman who bears that honored name will now respond for the press."

Responded to by Hon. William Cullen Bryant, of the Brooklyn *Times* : "Thomas Jefferson said he would rather have newspapers without a government than government without newspapers. If that was true in his time how much more true is it now? Franklin printed a paper on a press with a capacity of 100 papers an hour, and now there is a press in course of construction with a capacity of 96,000 eight-page papers an hour. Then we have our press associations, that are doing a wonderful work. I congratulate Dr. Byrne and hope he may remain with us many years."

"THE AMERICAN GYNECOLOGICAL SOCIETY : The great city across the river has many illustrious men in the medical profession. One of its brightest lights is here and will shine on behalf of the American Gynecological Society."

Responded to by Dr. Egbert H. Grandin, of New York.

"THE NEW YORK OBSTETRICAL SOCIETY : For many moons the braves on the Tammany reservations have been making frantic

efforts to secure possession of Miss Brooklyn. To-night we have captured one of their most famous medicine-men, whose medicine-bag contains virtues that call forth the songs of every Hiawatha from the Battery to Bronx park. We hail him as a welcome guest."

Dr. Horace Tracey Hanks responded as follows: "The New York Obstetrical Society was organized October 2^d, 1863; first president was Dr. Thomas F. Cock; first vice-president was Dr. Thomas Addis Emmet; second president was the late lamented Dr. E. R. Peaslee; third president was Dr. T. Gaillard Thomas. You, Dr. Byrne, of this society, were our honored and loved president in 1874 and 1875. And later Dr. Skene and Dr. Jewett, also from this society, have occupied the president's chair.

"What wonder, then, that this, your society here, should prosper and have an important influence, when so many of your number have been influential and useful members of, and officers of, the oldest obstetrical society in the United States!

"At that first meeting, in October, 1863, at the house of Dr. Thomas, called by and at the suggestion of Dr. Thomas, there were present Drs. Barker, Peaslee, Budd, Emmet, Cock, Jacobi, Reynolds, Noeggerath, Sabine, Swift, Taylor, and Thomas. To-day, Cock, Thomas, Emmet, and Jacobi still live, and are alive to all that interests us in our specialty. It is interesting to note that the oldest obstetrical society of the kind at this time is The Obstetrical Society of London, and that it antedates our own by only five years.

"How it must surprise some of the younger members of this society to be told that, when Skene and the speaker began the study of medicine, the Obstetrical Society of London was but just beginning, pleading through such men as Edward Rigby, its first president, and Robert Barnes, its first vice-president, for recognition and standing. It gained its present position, and has continued in no small degree to enlarge the knowledge of all that pertains to obstetrics.

"And so too in New York. Our obstetrical society has won its way by dint of earnest work—original work—until to-day it is quite impossible to compute the advantage it has been to the specialist in this department of work—no less than the general practitioner, who has to do with obstetrics and diseases of women.

"All honor to Thomas and Emmet and Byrne, Skene and Jacobi and Cock! Our society has gone forward in the perform-

ance of the work of such a society with varying success. The papers and discoveries of the society fill many volumes, and we touch the high-water mark every year. We have found it wise to make the society a more public one, since the Greater New York furnishes so many more obstetricians and Gynecologists than were found in that little group which met at Dr. Thomas's in October, 1863. To-day we number 72 members; and probably no obstetrical society in the world can boast of a larger percentage of thoroughly equipped, conscientious, hard-working members.

“Even some of the older members often attend the meetings which they assisted in organizing thirty-three years ago. Dr. Thomas Addis Emmet never fails to prepare a paper for us when his turn comes around. It pays to be a member of a society to help others as well as secure good for one's self. The present president has made and is making special efforts to secure first-class papers, from home and foreign talent, and our discussions compare favorably with those of the American Gynecological Society. Several years ago we changed from a private semi-social society to a public or semi-public society, and each member has the privilege of inviting one guest. At our last meeting we were instructed and entertained by one of your own members, Dr. Dickinson, on the important subject of bicycles, and especially bicycle-seats, in their relation to diseases of women.”

“CONTEMPORARY WITH DR. BYRNE: Across the blue Atlantic, in the land where the bluebell and heather grow, in the land of Ossian, of Wallace and of Burns, in Bonnie Scotland, the land o' oat-cakes, o' brawny men and bonnie lasses,—some centuries ago could be seen at the gathering of the clans a tall, athletic youth of quiet demeanor, but terrible when his passions were stirred or in an affray or battle. On these occasions, above the din of conversation could be heard such exclamations as ‘*Skene dhu*,’ ‘*Skene mohr*,’ or ‘*Skene beachen*.’ *Skene* is the Gaelic word signifying *knife*. *Skene dhu* (black knife) or *Skene mohr* (great knife) was used for purposes of offense or defence; and *Skene beachen* (little knife) for table or domestic purposes.

“The youth to whom reference has been made was an adept in the use of the knife; quick, decisive, and fatal was his thrust; and woe to the foe who crossed his path, for he was a veritable Jeemes Bowie in the use of his trusty *skene dhu*. On one occasion while hunting in the forest of Stocket his royal sovereign Malcolm was attacked by a ferocious wolf; this brave youth,

single-handed and alone, and with only *skene dhu*, laid the brute dead at the feet of the king, and was royally rewarded with the name of *Skene*.

"One of his descendants is with us to-night whose brilliant and skillful use of the knife is supposed to be the result of close application and study : but such is not the case : it is simply the progressive and mature development of a hereditary characteristic.

"Dr. Alexander J. C. Skene and Dr. John Byrne have been *cutting up in the same backyard* for many years, and I now call upon Dr. Skene to tell us about those doings."

Responded to by Dr. Skene, who said : " I don't believe that there is any physician here who would not rather receive the compliment paid to Dr. Byrne to-night than have honors conferred upon him by a European monarch. I could talk from now until to-morrow morning of Dr. Byrne's good qualities. He has been distinguished for his kindness and justness to the members of the medical profession, especially the young members. I believe that Dr. Byrne is the first man who ever drew to Brooklyn medical men from New York and other villages surrounding this city. Dr. J. Marion Sims and other eminent men came over to his hospital to see Dr. Byrne's work. His broad-minded liberality has done more to raise the standard of the medical profession than any other man I know of."

"THE MEDICAL SOCIETY OF THE STATE OF NEW YORK : The Medical Society of the State of New York was at its last meeting honored by the election of one of our members as its Vice-President. The Brooklyn Gynecological Society appreciates and shares in this honor."

Responded to by Vice-President Dr. William Maddren.

"THE MEDICAL SOCIETY OF THE COUNTY OF KINGS : A man of large frame and large heart, the most popular presiding officer in this city, and although professedly a good man he has peculiar associates, for the worse people are the more is he with them."

Responded to by Dr. George McNaughton, President Kings County Medical Society.

"THE BROOKLYN PATHOLOGICAL SOCIETY : We have an artistic and unique menu which has elicited the admiration of all and excited the curiosity of some of us. The picture on the title-page is evidently a 'snap shot.' My friend on the left is anxious to know what peculiar pathological conditions does the picture suggest. Will President Fred. J. Shoop enlighten us?"

In response to this toast Dr. Shoop said :

“ *Mr. President, Fellows* : The honor has been accorded me to-night to speak of the Brooklyn Pathological Society, and, as its representative, to bring from it greeting to you and to your honored first president, Dr. John Byrne.

“ We recognize in Dr. Byrne a fellow-pathologist. He was actively identified with the society from its foundation, nearly twenty-six years ago, until within the past six years, when his increasing duties impelled his withdrawal from us. He is a pathologist in the sense in which the Brooklyn Pathological Society interprets the word—one who knows disease.

“ There are those in our society who are pathologists in the stricter meaning—expert microscopists, bacteriologists, chemists—who devote their whole time, yes, their lives, to that work. Let me mention here some names of our members whom we are proud to honor as pathologists in both meanings of the word : Dr. Alexander J. C. Skene, president of the L. I. C. H., and professor of medical and surgical diseases of women ; Dr. Eugene Hodenpyl, pathologist to Roosevelt Hospital ; Dr. Frank Ferguson, pathologist to the New York Hospital ; Dr. Ezra H. Wilson, twice elected president of the Pathological Society, bacteriologist for the Board of Health of Brooklyn, and first to introduce the manufacture of diphtheria antitoxin in the United States, and by whose influence the antitoxin has been supplied by the Health Department free of cost to any physician in Brooklyn who desires to take advantage of its offer ; Dr. Eliza M. Mosher, recently elected vice-president of the Pathological Society, and who has just received and accepted a call to be professor of hygiene and to be woman's dean in the University of Michigan, at Ann Arbor ; Dr. Geo. M. Sternberg, author of a ‘Manual of Bacteriology,’ and who has been accorded the highest office this government can bestow upon a man—Surgeon-general of the United States ; Dr. Joshua M. Van Cott, Jr., formerly president of the Pathological Society, who fills the position of pathologist to your society, and is professor of pathology in the L. I. C. H. ; Dr. John Byrne, to whom we do honor this night, and whose record has been presented to you by preceding speakers.

“ And so I might proceed through a large part of the list of our members.

“ The rest of us are content to profit by their instruction and unselfish work in the society ; and we come together for the im-

provement of ourselves in pathology and in diagnosis as founded upon pathology.

“With the groundwork thus obtained scientific treatment follows as a matter of course.

“What wonder, then, that one who follows up such a line of thought as has Dr. Byrne for so many years, should as a result produce the galvano-cautery treatment of cancer of the uterine neck, with its unexcelled array of statistical cures? Until Dr. Van Cott or some one of his contemporaries finds the bacillus carcinomæ, and discovers the particular antitoxin which shall arrest its development, or until those who oppose the theory of the bacterial origin of cancer can demonstrate beyond a doubt that cancer propagates itself solely, by the transmigration and development of its own peculiar cancerous cells, and show us how to increase the phagocytic power of the white blood-corpuscle sufficiently to overcome the obstinate invader.—Dr. Byrne and his disciples will continue to use the cautery knife which leaves in the wound a veritable chinese wall that most effectually resists the invasion of the barbarian cancer cell, pyogenic germ, and hypothetic bacillus carcinomæ.

“It is related of Dr. Simpson, of Edinburgh, who introduced that great boon to womankind, anesthesia in labor, that when he had received the title ‘Sir’ J. Y. Simpson, he was at loss for a suitable coat-of-arms, and, as he wished to have it put on a new carriage just ordered from the shops, in his dilemma he consulted a friend, who was somewhat of a wag.

“‘Why, doctor,’ he replied, ‘paint on your carriage a newborn babe; and under it place the motto, “Does your mother know you are out?”’

“Dr. Byrne, if you are in quest of a coat-of-arms paint the form of lovely woman and inscribe the motto above her, ‘Saved as by fire.’

“Pathology is the handmaid of medical science; for more than one-hundred years she has been a faithful servant whose merits have until recently been little understood. Kept for years in subjection by the followers of Galen, through jealousy for his teachings, sometimes held in ridicule because of the gross ignorance of some pretenders to the science of pathology—one of whom in 51 years dissected 300 bodies, was teacher of all Europe, yet left to posterity not one single truth—hindered by prejudice against the dissection of the human body and by lack of necessary optical and other appliances—gradually and during the pres-

ent decade almost suddenly she has assumed her rightful place, no longer a drudge and ill-treated slave, but the very *queen* of scientific medical thought.

"Now she assumes the rôle of teacher. She has taught the surgeon to no longer look for nicely suppurating wounds, to no longer invite his medical friend witnessing the operation to thrust his germ laden finger into the gaping abdominal wound to satisfy his curiosity as to the hardness or softness of the tumor. She has taught that puerperal fever exists because pyogenic germs have been introduced from without into a womb which has just become an excellent culture-medium and incubator combined for the rapid development and propagation of such germs, and that such a fever is in reality a septic fever.

"She has taught that if curettings from a hemorrhagic uterus show merely adenomatous material, and hemorrhage persists after three successive thorough curettements, even though the microscope yet fails to demonstrate anything malignant, that uterus is in the early stage of carcinomatous degeneration: and that unless an immediate hysterectomy be done, the patient will in all probability succumb to that malignant disease.

"In other words, she has taught the obstetrician to be clean, the surgeon to be clean and more accurate in his diagnosis and prognosis, the medical practitioner to use simpler medicines and to apply them more effectively; has taught the use of preventive measures as well as curative; has taught the gynecologist how to make woman healthy and to keep her healthy, to prevent largely the development of the very affections which make his calling so necessary and so lucrative a one.

"In fact, pathology is so intimately blended with medical thought that it has become inseparable: and before any one can properly fit himself for the pursuance of a specialty in medical or surgical science, he must first be thoroughly grounded in the principles of pathology.

"Would it be presumptuous in me, then, to prophesy that in the near future when the Brooklyn Academy of Medicine becomes a reality, entrance to membership in any one of its sections must be through the portals of the Section on Pathology?

"All honor to those who have made the Brooklyn Pathological Society what it is, and long life to those who are constructing on that foundation what it is to be."

"**BROOKLYN GYNECOLOGICAL SOCIETY:** For several years the organization of a gynecological society in this city was frequently

discussed, and at last Dr. Walter B. Chase sounded the clarion note and the society sprung into being."

Responded to by Dr. Walter B. Chase.

Letters of regret were read by Dr. J. C. MacEvitt from Drs. Howard Kelly, G. R. Butler, J. F. Frisbie, Baldy, J. R. Chadwick, Ernest Palmer, T. A. Emmet, G. F. Shrady. Dr. Henry C. Coe sent the following letter :

NEW YORK, Jan. 22, 1896.

"John C. MacEvitt, M.D., Corresponding Secretary, etc. :

DEAR DOCTOR—I deeply regret my inability to accept your kind invitation, for I was anxious to have an opportunity of testifying to the respect and affection entertained for Dr. Byrne by his friends in New York. He has been so long identified with the history of the Obstetrical Society that we feel that in honoring him you also honor us. We all love him and rejoice with you in possessing a share of him. God bless the fine old fellow, and may he long be spared to us ! I never think of Dr. Byrne without recalling Sam Weller's remark concerning the immortal Pickwick : 'I never see such a fine creetur in my days. Blessed if I don't think his heart must ha' been born five and twenty years arter his body, at least.' Wishing you a delightful evening,

"I am, cordially yours,

"HENRY C. COE."

His Honor the Mayor of Brooklyn expressed his regret in the following letter :

"MAYOR'S OFFICE, }
BROOKLYN, N. Y., }
January 20, 1896. }

"John MacEvitt, M.D., Corresponding Secretary, etc.:

DEAR SIR—Permit me to acknowledge the receipt of the kind invitation of the Brooklyn Gynecological Society, to attend the complimentary dinner given to its first president, Dr. John Byrne, at the Union League Club on January 23d. I have delayed responding to it in hopes of making my engagements such that I would be able to accept, but I find it impossible to do so. I should like to join with you in this tribute to Dr. Byrne, whose public work in Brooklyn is well known, and I trust that you will convey to him my compliments and express to the society my regret that I am not able to join in their tribute to him.

"Thanking the society through you for the invitation,

"I remain, Very truly yours,

"F. W. WURSTER."

General Woodford sent his regrets in the following letter :

“NEW YORK, January 21, 1896.

“J. C. MacEvitt, M.D., Corresponding Secretary, 407 Clinton St., Brooklyn :

“MY DEAR DOCTOR—Let me thank you for the kind invitation to the dinner of your society on Thursday evening, January 23d. My duties in connection with the Art Reception at the Union League Club that evening deny me the pleasure of acceptance.

“It will do our club great honor if your society and your guests will attend our reception at the close of your dinner.

“Very truly yours,

“STEWART L. WOODFORD, President Union League.”

The General was, however, unable to resist the attractions, and toward the close of the evening personally invited the members to inspect the exhibition of beautiful pictures.

After singing Auld Lang Syne the assemblage dispersed, having had a glorious evening, and grateful for the opportunity of displaying their love and respect for their colleague.

IN MEMORIAM—HENRY W. RAND, M.D.

TRIBUTE OF BROOKLYN SURGICAL SOCIETY.

To live an upright and worthy life; to be a true and steadfast friend; to have high and noble aims; to be the faithful and accomplished physician; to attain to high surgical art and skill—call for and merit the respect and approbation of all. Such commendable qualities of head and heart belonged to and graced the late Dr. H. W. Rand, the gentle, kind, affectionate, and wise physician. Equipped for the highest and best work in aid of the sick and injured, and overtaken by its burdens, he, in the midst of his usefulness, laid down its responsibilities, and, in the silence, rested from his labors. To the members of the Surgical Society there came, and will come, a deep and abiding interest in the man and the surgeon; and then there affects us the suggestion of a touching regret, that one so gifted in his peculiar work should be called hence in the prime of life and when so much needed. Over him as he rests there will bloom the flower of a perennial memory, and on the grass that grows above him we lay with gentle and affectionate hand the wreath of laurel. It is very much to say of him, that because he has lived, the world

has been made better, and the profession of healing has been raised to a higher level. From his life and his mortality there comes the admonition: High aims, lofty aspirations, and earnest endeavors lead to the best equipment for work in the healing art. We cannot question, we cannot explain, his going; but, in such way as we can, we submit to the dispensation; and, as far as is given to us, we share the grief and the burden of those who were more nearly a part of the gentle and noble life he lived among men.

JARVIS S. WIGHT,
A. T. BRISTOW,
Committee.

...

SCIATICA: ITS SATISFACTORY TREATMENT BY STATIC ELECTRICITY.

BY S. H. MONELL, M.D.

It is the purpose of this brief paper to suggest a comparison of values in the various methods of treating sciatica. Sciatica possesses a peculiar interest among neuralgias and is practically the most important of any below the neck. Pain brings the patient to the physician, and the question arises, "What shall he do for it?" That the right answer is sometimes buried in deep obscurity is common experience. Some time ago an appeal for therapeutic hints came before me in a letter from a distant physician, which closed as follows: "This dire affliction seems to tax the ingenuity of the average prescriber to an extent that in the depths of his perplexity he calls for the observations and methods of others to aid him." If a multiplicity of remedies for any disease is proof that its general treatment is unsatisfactory, the writer's perplexity is intelligible and his appeal must touch a sympathetic chord in many others. But the man who has the sciatica wants relief, and wants it urgently. In eight cases out of ten, and in nearly all recent cases dependent upon neuritis, the most speedy, complete and lasting relief can be given him by static sparks. In order to better contrast the efficacy of this prescription with all other internal, external, or hypodermic methods of treatment, let us simply name the chief recommendations of leading text-books. Internally we have a choice between aconite, arsenic, ammonia mur., atropine, any or all of the coal tar analgesics, kali iodid., belladonna, turpentine, cimicifuga, salicylate

of soda, rhus tox, iron, quinine, morphia, phosphorus, sulphur, colocynth, etc., hypodermics of cocaine, chloroform, ether, anti-pyrine and warm water, (morphine per hypodermic as a matter of course,) and sprays of chlorides of methyl and ether. Then come in order massage, acupuncture, blisters, cautery applications, poultices, hot water bags, ice bags, liniments, ointments, counter-irritants; with Turkish baths, the rest cure and nerve stretching. The mustard plaster is a time honored remedy. Other plasters with counter-irritant and anodyne properties are largely employed. The sovereign control of opium over pain will induce many a perplexed physician to resort to it, but it should be remembered that neuralgia has been the starting point of ruin for many unfortunate victims of the morphine habit.

The drugs and therapeutic methods above mentioned receive more or less credit in text-books. References to electricity for the treatment of sciatica are usually omitted, or are very brief, and so indefinite that the reader is wholly at sea as regards current, dosage and technique. Some authors advise the galvanic current—some in very mild and some in strong intensities—others advise faradic applications, while my preference is for static. It is safe to say that no master of electrotherapy would exchange the resources at his command for any of the usual remedies employed; but the value of static electricity in particular cannot be fully appreciated without more special reference to another method of procedure which has been designated the Rest Cure.

To compare this method fairly with my own plan of treating sciatica it is necessary to present here a summary of the rest cure as practiced and taught by Dr. S. Weir Mitchell. "After eliminating rheumatism, gout, syphilis, trauma, and pelvic growths, and deciding that the case is one of neuritis, he considers the most certain indication is to secure rest; not by simply keeping the patient in bed, but by means of a long splint. An old-fashioned long splint from the axilla to the foot may be used, or a roughly moulded anterior splint with a wooden attachment carried up laterally to the waist or axilla. The knee must be gently flexed, and the angle of flexion changed a very little at each dressing. After a few days of undisturbed rest all the joints must be carefully and slowly flexed and extended to a slight extent to prevent too great stiffness, the common evil which follows the use of a splint. If the case is not cured thereby, Mitchell recommends the daily use of Paquelin's cautery button at the pain points. If still obstinate he employs dry cold. An ice bag of rubber is kept

on the painful nerve tract day and night for two or three weeks : or the leg is placed on a tin or copper gutter, on the under part of which is an ice case three or four inches wide. As the pain disappears the use of cold is diminished until it is only applied at night or for an hour or two twice a day. At this stage Mitchell employs kneading of the muscular masses of the leg, and also a gradually deeper surface rubbing in a downward direction over the nerve trunk for half an hour twice a day. When the pain has disappeared it is wiser for a while that at first the patient stand, aided by crutches, and then walk with them and not sit up long, as this brings pressure on a nerve which may still be sensitive. If the wasted limbs do not gain in size and tone at the close of a treatment the stimulation of the induction current may aid in producing a more rapid result."

This account, meagre but accurate in statement, prepares us now to discuss simple static sparks.

Without removing a garment, and with no preliminary measures whatever, the patient stands or sits on the insulating platform of a powerful Holtz machine, and by means of a ball electrode sparks are applied to the painful points, to the sacrum over the nerve canals, and generally along the tract of the affected nerve. A certain degree of skill in administration is required, together with the instruction of experience in proper management of the patient, but the skill required is easily obtained. The effect of this percussion over the irritable nerve is anodyne. Upon the muscle tissue the effect is tonic : and in from five to ten minutes the patient is usually free from pain, and able to step from the platform and walk with restored energy and comfort. The impression made upon the nerve is decisive and unmistakable, and curative. Relief from the first treatment lasts but a short time, that from the second treatment a longer time, and so on until relief is permanent. If the case is not merely neuritis but complicated by rheumatism or gout or any condition curative by any other non-operative means the spark may be equally depended on to do its work. Even in a case of sciatic pain due to malignant disease of the rectum, and where nerve stretching proved useless and opiates in excess were ruinous, I was able to afford a marked degree of temporary comfort to the patient.

From my case book I cite the following to illustrate the gradual development of continuous relief in acute sciatica of the ordinary type :

CASE I.—H. A——, male, age 35, came to the author with

severe pain, badly crippled, and history of five months suffering. First tried neighborly recommendations, then patent medicines, then druggists' prescriptions, and finally went to a physician. Being at last well-nigh distracted with pain he concluded to "try electricity," and was referred to the author.

August 18, 1893, gave first application of static sparks till pain was gone and he walked freely. Pains returned in one half hour.

August 19th. Second treatment, with increase of relief to an hour.

August 21st. Third treatment gave ease till midnight.

August 23d. Reports is much better and slept all night.

August 25th. Pain is only occasional and moderate.

August 26th. Sixth treatment. "Feels nearly well."

August 29th. Seventh treatment. Has resumed work and says he feels three-quarters cured, which is why he has not appeared daily for sparks.

August 30th. Eighth treatment. Improvement.

August 31st. Ninth treatment. Reports no pain for the past entire twenty-four hours and sleeps restfully.

September 8th. Returned to-day, reporting total absence of pain and felt well. Applied sparks as usual.

September 11th. Called to say he needed no further treatment, was working as usual. Several months later a relative informed the writer that he continued to be well.

CASE II.—H. J——, male, age 57. Sciatica so severe for past month that he came to city for treatment as his local physician failed to relieve. December 5, 1894, gave him static sparks which removed all pain temporarily. December 6th and 7th repeated treatment with such lasting relief that he attended to various business matters and walked about town all day.

December 8th. Fourth treatment. Feels nearly well, but one painful point remains, and what pain he has is mild in intensity.

December 10th. Had both severe headache and sciatica pain on coming to-day. Sparks to leg and static breeze to head removed pains completely.

December 11th. Sixth treatment. To-day expressed his wonder at the quick and good effects of static electricity about which he had at first been very skeptical. "Feels nearly well." Pains are moderate and only occasional.

December 12th. Sparks as usual.

December 13th. Eighth treatment. Mild pain at times still persists. He is walking about all day attending to important busi-

ness matters and admits that he over taxes his leg, but improves nevertheless.

December 14th. To-day reports paroxysms of quite severe pain, with intervals of entire freedom from pain. Will now remain away from business and rest.

December 16th. Tenth treatment. Pain nearly absent.

December 17th. Eleventh treatment. Feels nearly as well as ever. Is so confident that he goes home to-morrow.

Three months later he reported that he had no further trouble.

I recall but three cases in my experience in which the results of static treatment disappointed. One had malignancy for a cause. Some amelioration was obtained. The second was a case of traumatism four years previously with complete paralysis of the right leg. After a month's treatment three times a week pains were modified considerably, and during two more months of irregular and often interrupted treatment he gradually passed from the use of two crutches to canes, and was able to bear his weight on the limb comfortably. As, however, he was obliged to come from a town distant about one hundred miles, he could not continue treatment long enough to determine what persistent applications would have done. The third was that of an aged valetudinarian whose sciatica had been nursed for thirty years, and who stopped treatment at the end of a month, during which he was relieved to a very noticeable extent. To avoid, however, any charge of overconfidence in static electricity in my own hands, the cases to be next cited will be taken from another source, viz.: *The Post-Graduate*, No. 4, Vol. VIII, April, 1893.

CASE I.—Sciatica, right. Mr. —, duration five months. Sensitive points: middle of thigh, popliteal space, calf of leg, behind external malleolus. Pain constant, difficulty in getting up and down, knee jerk exaggerated, impaired nutrition, thin and worn-looking. April 27th, 1892, to May 13th, 1892, seven treatments. Result: improved nutrition, gain in weight, pain gone, free movement.

CASE II.—Sciatica, right. Mr. —, clerk. Affected four years. Onset sudden, worse in right leg, pain constant, worse before storms and in rainy weather. December 21, 1891, to February 5, 1892, seven treatments. Recovery. Able to stand at work all day. November 23, 1892, reported no return of the sciatica.

CASE III.—Sciatica, right. Mr. D. D.—, painter. Duration six weeks. Painful points, middle of thigh and below head of fibula. Leg held stiffly in walking and slightly flexed, extreme

pain, worse on movement. Was taking opium. Twenty-one treatments. Discharged recovered.

CASE IV.—Sciatica, double. Mr. A. H——, clerk. Duration nine months. Left leg affected first, then right. Pain in sacrum, sciatic notch, popliteal space and to foot. Cannot sleep; knee jerk scarcely evocable in left leg. December 14, 1891, to March, 1892, thirteen treatments. Pain markedly relieved after five treatments. After six he was able to sleep until 5 A.M. and to go to work. After nine applications resumed work all day, standing from morning until night. Recovered.

CASE V.—Sciatica, double, chronic. Mrs. S. S——. Duration four and a half years. Onset sudden, first in back and left leg, then in right leg. Has been in hospitals and taken medicines and galvanism off and on ever since. Pain, cramps, and shortening of limb. Walks only with a cane. Could not get on or off the static platform for treatment without help. October 28, 1891, to December 30, 1892, (fourteen months) gave seventy-eight treatments. Result: gets on and off platform without help, walks everywhere in-doors without cane, no pain, no cramps.

CASE VI.—Sciatica, right. Mr. B. M——, driver. Duration nine months. Great pain, could not sleep, impaired nutrition, worn and anxious countenance, impaired mobility. Walked with great difficulty. October 9th to December 14th, twenty-eight treatments. Result: no pain, walks well, improved nutrition, gain in weight, able to go to work.

CASE VII.—Sciatica, right. Mr. S. B——. Duration six months. Pain, sore on pressure in popliteal space, difficult locomotion, walks with cane only. August 31, 1891, to November 6th, sixteen treatments. Walks without cane and has no pain or soreness.

None of these cases received any other treatment than static sparks which were applied in the Post-Graduate clinic.

I have referred (in the title of this paper) to this method as the “*satisfactory* treatment of sciatica.” Its application and results are satisfactory alike to patient and physician. It is applicable to the great majority of cases met with in practice. The number of cases of sciatica in which static electricity properly administered will fail is very small. In most instances it will produce at least some immediate benefit. In the majority of cases, either acute, sub-acute or chronic, it will produce curative results if fairly tested, and in recent cases it frequently acts like magic. The patient is not inconvenienced by enforced “rest” in bed.

Hypodermic medication, liniments, poultices, plasters, cautery and counter irritant applications are rendered unnecessary. The application of splints, ice bags, bandaging, extension, flexion, kneading the limb, etc., procedures which require a skilled attendant and a great deal of time, are done away with in static treatment. Long and enforced disuse of the limb impairs muscular tone and function, while the powerful spark of the Holtz machine gives firmness, activity and strength to the entire limb thus treated.

No muscle, not atrophied from a central lesion, can waste away under the static stimulus. When pain has disappeared the patient is not weakened and wasted by long inaction so as to require "massage, faradism and tonics to build him up, and crutches to aid him in standing and walking," but his general vitality, muscular energy and physical endurance have been gaining simultaneously with the lessening of the pain.

Why this form of electricity affords such speedy and lasting relief in lumbago, sciatica and well-nigh every variety of rheumatic, neuralgic and muscular pain is an undetermined question, which lack of space prevents my discussing here. A comparatively full account of the physiological action of static electricity by the present author was published elsewhere within a year, and a study of its remarkable properties goes far to explain its great clinical usefulness. Being devoid of electrolytic action it requires almost wholly separate consideration from the galvanic current, while in potential, frequency and character of its oscillatory discharge it towers above faradism as the giants of Brobdignag towered above the natives of Lilliput.

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CHAPTER CXI OF 1896.

The new act, which has just been passed by the State Legislature, is given in full in this number. It is very comprehensive, and, while it metes out justice to medical students of the present, it provides for additional entrance requirements and four years of study for those of the future.

A CASE OF SUPPURATIVE PANCREATITIS AND PARA PANCREATIC ABSCESS.

DIAGNOSIS MADE BY EXPLORATORY ABDOMINAL SECTION.

BY GEORGE R. FOWLER, M.D.,

Professor of Surgery in the New York Polyclinic, Surgeon to the Methodist Episcopal Hospital and to the Brooklyn Hospital.

Read before the Brooklyn Surgical Society, November 7, 1895.

J. L., baker, German, aged thirty-nine, admitted to the Methodist Episcopal Hospital, October 29, 1895.

The following history was obtained by Dr. Goodrich, of the interne staff.

Family history: Negative. Personal history: Has always been healthy, save for two previous attacks of illness, the leading features of which were pain in the right side of the abdomen, constipation, nausea, vomiting, and great prostration. The first of these attacks occurred six years ago, and the second six months ago. These were never followed by jaundice. For some time prior to the present attack he had suffered from suggestions of abdominal distress. Two days ago he was suddenly seized with severe abdominal pain, which he said was most severe in the right side. The abdominal pain has persisted and increased in severity. Nausea and vomiting have been present. Constipation present. Prostration has been marked since the onset of the acute symptoms of the present attack, compelling him to remain in bed since the first seizure. He thinks that he has had some fever.

Examination shortly after his admission to the hospital revealed the following: The patient is a well-formed and well-nourished German; somewhat corpulent, but with pronounced pallor of the surface. The abdomen is distended, tympanitic and tender. The tenderness is most marked upon the right side of the abdomen, but extends to and beyond the median line in the epigastric and umbilical regions; abdominal wall generally rigid. Pulse 140 and very weak. Temperature 99.8° F. Physical examination of the chest negative.

Examination of the urine shows the presence of albumin,

hyaline casts, and sugar. Specific gravity 1024. Reaction acid. Quantitative analysis gives 10 grains of urea to the ounce.

Supposing the attack to be due to indigestion no medical attendant had been summoned until the day of his admission, when Dr. Drescher saw him. The only medication he received was a dose of sulphate of magnesia, after which he vomited. His bowels moved, however, as a result of the administration. At this time he was seen by a surgical consultant, who regarded the case as possibly one of appendicitis, and recommended that he be transferred to the hospital for operative treatment.

When seen by me, his condition was essentially as given above, save that the tenderness was most marked between the xyphoid cartilage and the umbilicus, suggesting a perforating ulcer of the stomach as the starting point of the extensive peritonitis which existed. The liver dulness was normal. Palpation could not be practiced, on account of the excessive abdominal tenderness. The surfaces of the extremities were cyanosed from vaso-motor paralysis.

In view of the uncertainty as to the origin of the peritonitis it was determined to make an exploratory abdominal section. The anesthetic used was ether and oxygen combined. The ether was placed in the wash-bottle of the oxygen apparatus and from this two tubes were led, one through each end of an Allis' inhaler, near the bottom. The top of the inhaler was closed by a thick layer of non-absorbent cotton. Anesthesia was established in four minutes.

A median incision was employed. Upon incising the peritoneum a quantity of sero-purulent material escaped. The site of the appendix was at once sought. This organ was found to be normal. The pelvis was found to be filled with sero-pus and the intestines were bathed in this fluid. The incision was extended vertically upward and the liver explored. This, as well as the gall-bladder, was found healthy. Upon separating the coils of intestine in the median line, these were found to be covered by recent plastic exudation. As these were separated a fresh gush of sero-purulent fluid occurred. This was immediately sponged away, and further search showed that the fluid welled up from the root of the mesentery and behind the pancreas. The latter organ was covered by a recent exudate. Palpation of the organ showed an increased hardness and infiltration. While cleansing and exploring in the neighborhood of the pancreas a thick mass of what seemed to be one of the fatty

masses from the mesentery was disturbed and removed. It bore the gross appearances of fatty tissue in a state of necrosis. A diagnosis of acute suppurative pancreatitis, with posterior rupture of a para-pancreatic abscess was made. We were compelled, however, to rest content with cleansing the parts posteriorly to the pancreas as thoroughly as possible, and after establishing drainage of this portion of the abdomen by means of two large rubber drains, passed one through each flank, and a tampon of iodoform gauze led from the site of the suppurative process through the coils of intestine anteriorly and out of the abdominal wound, the latter was closed. Just before closing the abdomen this, as well as the pelvic cavity, was washed out with copious quantities of a warm sterilized normal salt solution, after which the two cavities were dried as rapidly as possible with gauze compresses.

The patient rallied well from the anesthetic. The drains from the flanks performed their office efficiently: large quantities of fluid passed out into the copious layers of gauze dressings.

The patient's first promises of improvement proved to be shortlived. He gradually sank, and died twenty-two hours after the operation. An autopsy was made. The following is the report of Dr. W. N. Belcher, the pathologist to the hospital:

Gross findings by Dr. De Forrest: Body normal. Abdomen considerably distended. Viscera normally situated. The intestines are considerably injected. The abdominal cavity contained a considerable quantity of sero-purulent fluid. The mesentery is very much thickened and contains a large amount of fat, and is quite edematous. In the region of the pancreas, portions of the mesentery are firmly bound together, and to neighboring viscera by extensive adhesions. The stomach, duodenum, pancreas, spleen and left kidney are also firmly bound together by plastic lymph, and on the surface flocculi of pus are found. The stomach shows no gross lesions of the mucous membrane, but the walls are thickened.

The duodenum appears normal. The opening of the pancreatic duct is larger, and a probe passes freely into it and into the pancreatic tissue. The spleen is greatly enlarged and friable. The splenic connective tissue is increased and the pulp of the organ is so soft as to be nearly fluid.

The kidneys are both enlarged and show a parenchymatous nephritis, with super-added acute nephritis. The capsules are adherent and the perinephritic fat is thickened.

The liver is enlarged and shows marked fatty degeneration, with softened structure.

The pancreas is generally enlarged and very firm. The fibrous tissue is greatly increased, and gives to the organ its firmness. Scattered throughout the fat surrounding the organ are numerous small nodules of uniform texture and showing a yellowish or orange color on section (fat necrosis?). In many places the fibrous tissue of the organ shows gray, or even white in color. There is a cavity wall in the organ which appears to have contained fluid, probably pus.

Microscopic findings by Dr. Belcher: Sections of the pancreas, under the microscope, show the picture of chronic interstitial inflammation of the gland, as characterized by marked increase in the fibrous tissue framework of the organ, the glandular acini being unusually prominent from the fibrous bands outlining them. There are places in the sections where decided bands of dense fibrous connective tissue, rich in inflammatory cells, are seen running through the gland.

Remarks—The case under consideration is to be classed as suppurative pancreatitis with para-pancreatic abscess and rupture of the suppurating focus into the peritoneal cavity. Diseases of the pancreas have been supposed to possess a medical interest only until of late years; but since the surgeon's respect for the peritoneum has been gradually lessened, and, in point of fact, has practically disappeared, the possibilities of relieving intra-abdominal conditions, heretofore irremediable, have been considered and exploratory abdominal section made, both with the view of effecting a definite diagnosis, as well as in the hope of applying curative measures, these including the removal of the cause, as in cases of appendicitis, and drainage of the abdominal cavity when this has been invaded by a suppurative process.

In at least one case of suppurative pancreatitis reported* operative treatment proved successful. In this case explorative operation was decided upon and carried out by Dr. Finney, assistant to Dr. Halstead at the Johns Hopkins Hospital. The incision was made in the median line and a large mass discovered adherent to the liver and stomach. The transverse colon was involved in the adhesions. No attempt was made to break into the mass, but the general peritoneal cavity was isolated with gauze and an opening left for future drainage. On the tenth day

*Thayer: Acute Pancreatitis—Para-pancreatic Abscess, etc. *The American Journal of the Medical Sciences*, October, 1895.

Dr. Halstead opened into the presenting mass with his fingers and gave exit to a large quantity of thick, brownish-yellow pus. The finger finally passed, in the depths of the mass, into what appeared to be a cavity in the pancreas. There subsequently discharged from the cavity which had been opened creamy pus and large masses of necrotic fatty tissue. The cavity granulated slowly, and about three months following the operation the patient left the hospital, feeling quite well, but with a small sinus still discharging.

In my own case, the course followed by Finney and Halstead was manifestly impossible. Rupture had already taken place, septic peritonitis was at hand, and the only indicated rational procedure in the face of this condition was to ascertain the original source of suppuration, if possible, and to cleanse and drain this, together with the general peritoneal cavity.

The condition of the patient at the time of operation was such as, under ordinary circumstances, would preclude the administration of an anesthetic. Having had some favorable experiences in desperate cases recently with the method of combining ether and oxygen for the purposes of anesthesia, as suggested by Dr. Carter S. Cole,* I decided to employ this combination. I am led to think, as the result of these experiences, that, either because of the lessened quantity of ether required, the introduction of oxygen simultaneously, or both, patients *in extremis* suffer less from shock following the operation, and are less favorably influenced by the anesthetic agent than is otherwise the case.

Destructive lesions of the pancreas usually prove fatal, although Thayer quotes cases reported by Trafoyer and Chiari in which large portions of the necrotic pancreas passed by the rectum, recovery ensuing. Such instances of recovery must be very exceptional, and it is probably true that cases will occur in which early diagnosis and operative interference will prove of value in saving life.

Owing to the anatomical location and comparative inaccessibility of the organ, as well as the difficulty of diagnosing its lesions by physical examination, arising, in great measure, from its distance from the anterior abdominal wall, of all the abdominal organs the pancreas has been heretofore the least frequently subjected to surgical treatment. The difficulties of diagnosis have been further enhanced by a want of accurate knowledge of

* Medical Record, October 12, 1895, page 505.

its function and an obscurity in the symptomatology of its diseases.

The profession is greatly indebted to Prof. N. Semm, of Chicago, for the first systematic attempt to collate and arrange for ready reference the literature upon the subject of the surgery of the pancreas.* In treating of the surgical possibilities of abscess of the pancreas, this author very pertinently remarks: "At the present time, no one familiar with the recent advances in surgery would question the propriety of treating a suppurating cavity by incision and drainage, wherever it might be located."

The most recent formal contribution to the literature of the subject of diseases of the pancreas is that of Dr. Reginald Fitz. of Boston,† who likewise called attention to the acute inflammatory conditions of this organ in the Middleton-Goldsmith Lectures.‡ Fitz here lays stress upon the "sudden, severe, intense, gastric, epigastric, or abdominal pain, vomiting, and sometimes great prostration."

Fever is moderate, its appearance delayed until about the third day, and it may be absent altogether. The local objective signs present are swelling and tympanites in the epigastric region. The sensitiveness is also marked in this region. The further course of the disease is characterized by "frequent irregular chills and a typical, often high temperature." The disease may be prolonged for six or seven weeks. As adhesions occur between the neighboring organs, enlargement of the liver and spleen occur. Pressure upon the common duct may give rise to jaundice. In most cases the course of the disease is prolonged, and the final fatal result is due to asthenia, with symptoms of septicemia. In less severe cases running a chronic course, bronzed skin and sugar in the urine have been observed. In almost all cases the symptoms point to a deep-seated lesion in the epigastric region. Finally, in speaking of the prognosis, Fitz states that early recognition and appropriate surgical treatment offer hopes of a smaller mortality in the future.

As to the origin of the fat necrosis in pancreatic lesions, it is probable that the view held by Langanhaus is correct, namely, that it depends upon a primary affection of the pancreas, in which the opportunity is afforded for the escape of the secretion from the organ into the surrounding tissue. In the case here reported

* The Reference Handbook of the Medical Sciences. Wm. Wood & Co.: New York, 1887, Vol. V.

† American Text-Book of the Theory and Practice of Medicine, Vol. II., p. 972.

‡ Boston, 1889, 8 vo.

it is probable that the lesion consisted in a subacute pancreatitis which followed the acute attack of six months before. A slow suppurative process supervened, which was followed finally by perforation and septic peritonitis. The latter probably occurred two days before admission, and was the occasion of the super-vention of the severe symptoms. In this class of cases, according to Fitz, when the acute pancreatitis does not end in resolution and is not associated with hemorrhage or gangrene, a suppurative condition eventually occurs. The occurrence of sugar in the urine is to be noted as a feature of the case herewith reported. The coincidental occurrence of disease of the pancreas and diabetes was first noted more than a century ago (Cowley, 1788). Experiments upon animals (Mering and Minkowsky, 1889) have furnished proof of the origin of diabetes in diseased conditions of this organ. These observers showed that the removal of the pancreas in dogs was followed by all the characteristic symptoms of diabetes.

Now that attention has been called to this disease and its surgical possibilities, it may be well to group together the diagnostic points which will help to differentiate it from other acute conditions of the abdominal viscera. These may be briefly summed up as follows :

(1) The location of the primary seat of disease in the epigastrium.

(2) The suddenness of the attack, with severe gastric, epigastric, or abdominal pain, accompanied by great prostration and vomiting.

(3) Tenderness in the epigastric region, with tympanites and a mass recognizable by deep palpation.

(4) Absence of fever, or but moderate fever during the first two or three days of the attack.

In addition to these, there may be sugar in the urine. The question of fatty stools and the relation of this symptom to pancreatic disease is still an undecided one. While its presence is always suggestive of interference with the proper performance of the function of the pancreas, it should be borne in mind that this may arise from diseased conditions of the absorbing apparatus, as well as under circumstances of ingestion of an excess of fat, and also when there is a deficiency of bile. On the other hand, it may be absent when there is obstruction to, or failure of, the pancreatic secretion, the intestinal bacteria, notably the bacterium coli communis, sharing with the pancreas in the prop-

erty of saponifying fat. The presence of undigested muscle-fibre in large quantities in the stools is likewise suggestive of failing pancreatic secretion, for the reason that the peptonizing of albuminoids is a property shared in by both the pancreatic secretion and the gastric juice. This symptom may arise, however, from the presence of diarrhea.

The fact that the pancreatic secretion decomposes salol into salicylic acid and phenol, the latter being eliminated by the kidneys in the shape of a sulpho-carbolate and imparting to the urine a dark, greenish-brown color, characteristic of the presence of carbohc acid, has led to the suggestion that this may be taken advantage of for diagnostic purposes. A drachm of salol being given in divided doses in the course of twenty-four hours, and if the color reaction fails to make its appearance, this has been taken as evidence of failure of the pancreatic secretion. It should be borne in mind, however, that the gastric juice likewise possesses this property to a certain extent, a circumstance which negatives the salol test in cases of suspected disease of the pancreas.

Fat in the urine or lipuria has been observed, although rarely, in pancreatic lesions. While its presence would be confirmatory, from the diagnostic standpoint, the rarity of the condition robs this symptom of diagnostic importance in isolated cases.

In differentiating between pancreatic lesions and tumors of gastric or intestinal origin, the quantity of indican in the urine may be of importance. This is usually increased in the latter, while in the former it may remain normal or be diminished. This is dependent upon the fact, according to Pisenti,* that the source of indican is indol, and that this arises, like skatol and phenol, from the decomposition of leucin and tyrosin resulting from changes produced by the action of the pancreatic secretion upon peptones. Under normal conditions, the quantity of indican in the urine is small. Whatever value, therefore, its demonstrated increase or diminution may possess, will be only of value in differentiating between pancreatic disease and the conditions mentioned.

*Quoted by Fitz.

THE PARASITE OF MALARIA.

BY THOMAS C. CRAIG, M.D.

Passed Assistant Surgeon United States Navy.

Read before the Medical Society of the County of Kings, N. Y., at its October meeting, 1895.

I am sure that I am highly honored by the compliment of your invitation to read this paper before your learned society; and I can only say that I hope you will all overlook its imperfections.

It is now almost universally recognized that the malarial fevers are due to a certain well-known parasite, for which the name *plasmodium malariae* has been brought forward by Marchiafava and Celli. It is found in the blood of all persons suffering from malaria, as a minute mass of protoplasm, having amœboid movements in one stage of its development.

In the year 1880 Laveran, a French-Army surgeon, then stationed in Algeria, announced that he had found in the blood of malarial-fever patients a parasite which he believed was the cause of the disease. Many observers before Laveran had searched for the cause of these fevers, but with negative results. The honor of the discovery of this organism is due to this French-Army surgeon. It is but right to credit these earlier observers with some few facts.

Some of them discovered pigmented protoplasmic masses, pigmented bodies, pigmented leucocytes, and various pigmented conditions of different organs, but none of these observers was able to connect those phenomena with the causation of the malarial fevers. It was this pigmentation which first directed Laveran's attention to investigate these cases, and try and find out the source of this pigment.

I would like to mention here that in the preparation of this paper I have made use of a recent monograph on "The Malarial Fevers of Baltimore," by Drs. Thayer and Hewetson, to a large extent, and have also utilized the beautiful illustrations in their work in the preparation of the lantern-slides.

Laveran described "crescentic or ovoid bodies 8 to 9 μ in length by 3 μ in diameter; these were quite transparent and colorless, except for a collection of rounded pigment-granules near

the centre, or, more rarely, collected toward one end of the body." "At times the extremities of the crescentic bodies were connected by a pale, curved line." "Change of shape, if there was any, was very slow and slight."

He also described what is now recognized as the flagellate form of the parasite; and also "bodies which were generally spherical, 8 to 12 μ in diameter or sometimes more, slightly granular and non-motile, without peripheral filaments." The pigment was not arranged in any regular manner, and its amount varied in different specimens.

These organisms he only found in cases of malarial fevers; and when quinine was given they disappeared and the cases recovered—therefore he concluded that "there exists, in the blood of patients with malarial fever, parasitic elements which have heretofore been confounded with melaniferous leucocytes; the presence of these parasites in the blood is probably the principal cause of the manifestations of paludism."

These observations of Laveran were at first discredited and doubted, but shortly after his announcement his discoveries were confirmed by Richard, who pursued his studies in 1882, also in Algeria.

Laveran and Richard believed that the parasite developed to a certain extent in the blood-serum, then attached itself to the red blood-corpuscles, and there underwent further development.

As mentioned before, these discoveries by Laveran and Richard were at first discredited, but soon such observers as Klebs, Tomassi Crudeli, Marchiafava, and Celli confirmed them, and even went further and gave more accurate and detailed accounts of the morphology of this parasite. These last observers performed many experiments by inoculations of the blood of malarious patients into healthy persons; and in some instances produced the same type of disease as existed in the person from whom the blood was taken.

These observations of Laveran and Richard have now been amply confirmed by competent observers both at home and abroad. As early as 1885 Councilman and Abbott report, in the *American Journal of the Medical Sciences*, two cases of malarial fever in which they found in the different organs, after death, pigmented bodies of different sizes and shapes—"small hyaline masses, which stained faintly with the anilines, were seen sometimes encased in red blood-corpuscles, at other times lying between them." It will be observed that at first Laveran believed

the parasite to develop to a certain extent in the blood-serum, then to *attach* itself to a red blood-corpuscle ; later, Marchiafava and Celli announced that the parasite developed to a certain extent in the blood-serum, then *penetrated* the red blood-corpuscle, and there underwent further development at the expense of the hemoglobin of the corpuscles ; the parasite, in some cases growing so large, and appropriating to itself so much of the hemoglobin, as to entirely fill the corpuscle. These observations have been amply confirmed since, by perfectly competent microscopists.

Various attempts have been made to cultivate this parasite on artificial culture-media, but so far the results have been a failure. The blood of birds which had lived in malarious districts, or had been exposed to what we regard as malarial influences, has been examined, and bodies very similar to the malarial parasite have been found in it ; but as yet the observers have not been able to transfer the disease from birds to man, nor from man to them.

Persons have been fed on blood from malarial patients, have drank the water from the most malarious of the Pontine marshes ; animals, also, have been subjected to these same experiments ; but with negative results.

Now in regard to the morphology of this parasite. There is recognized, in the blood of malarial-fever patients, certain shapes, sizes, colors of pigment, and changes of this parasite.

In the malarial fevers there have been observed three different types of organisms, viz. : The tertian, the quartan, and the æstivo-autumnal. It is to these three organisms, either separately or combined, that all the different forms of malarial fever are due.

The cycle of changes which takes place in the malarial parasite in the blood has been quite accurately observed, and it seems to be constant ; so much so, in fact, is this the case that the paroxysms of the disease can be prognosticated with astonishing exactness. Moreover, the parasites of the different types of the disease are fairly well known.

1st. In regard to the tertian type.

There has been recognized, in the cycle of this parasite's growth, young hyaline forms, which appear to be about the earliest form in which it is seen to enter the blood-corpuscle.

This hyaline form is a minute, almost structureless stage ; staining little or none. It very soon enters the red blood corpuscle, and then ensues an amœba-like condition, in which it is seen to assume various shapes—throwing out pseudopodia in differ-

ent directions, which sometimes give it a "star-like" appearance. More than one of these hyaline bodies may enter one corpuscle—as many as three or four having been seen in one corpuscle. Growth continues, and this at the expense of the red blood-disc: the parasite becomes larger, consuming more and more of the hemoglobin. Pigment granules soon begin to appear in the body of the parasite. The granules are at first scattered, without any seeming regular arrangement. Often they are observed to have an intense molecular motion, or "Brownian movement," dancing up and down, or moving about in a small area. This pigment appears as a reddish-brown color. As the growth of the parasite proceeds the pigment seemingly ceases its movements, and begins to collect into groups or foci, or it may arrange itself in the form of a pigmented ring around the periphery of the organism.

About this time the parasite has grown to almost the size of the red blood-disc. It has devoured the hemoglobin, and by its growth has to a greater or less extent filled the corpuscle. At this stage in its development a very beautiful change takes place: viz., segmentation. Little indentations will be observed to be forming around the edge of the parasite. The pigment is observed to arrange itself into little masses near the centre. The indentations are seen to become more and more distinct, and to make their way toward the centre—a small nucleus-like body appearing to form in each segment. About this stage in its development, the parasite comes to look very much like a field daisy—the segments corresponding to the petals, while the central area, where the pigment has collected, can be likened to the receptacle.

Soon there is evidence of a splitting-up of this parasitical flower, into from twelve to twenty segments. The segments or petals become detached and the pigment matter is freed.

Just prior to this taking place, the parasite has freed itself from the interior of the blood-corpuscle; and of course this can only be done by its bursting the albuminous envelope of the corpuscle. The blood-corpuscles are then left either in a completely or a partially destroyed condition, depending on the size the parasite had attained, and the amount of hemoglobin consumed. The segments, being now cast off and freed, float in the blood-serum, and, as they are supposed to represent the spores of this organism, they are ready to go on, and develop each one of the segments into a full-grown parasite, capable in its turn of maturing into an organism like the parent.

These small segments, which have been freed and are floating in the blood-serum, are what are known as hyaline forms, and are generally seen about the height of the malarial paroxysm. Segmentation does not always take place in all of the parasites, but in its stead the parasite will burst forth from the blood-disc, and float free in the serum. These bodies are called extra-cellular forms. They are pigmented, and often grow to a size considerably larger than a red blood-disc. Sometimes they break up and thus are formed a number of smaller pigmented extra-cellular bodies. In some cases these large extra-cellular bodies undergo a flagellate development; that is, from the periphery of the organism long, slender, threadlike processes are thrown out. These flagella are in active motion and serve to propel the parasite quickly. At times the flagella become detached, and have been observed to have the power of moving with a "snake-like" motion among the corpuscles. The time for the complete development of the cycle of this parasite is about forty-eight hours.

2d. In regard to the quartan type.

The parasite of the quartan type of fever, in its earlier stages of development, cannot be distinguished from that of the tertian variety; but, as development proceeds, slight differences can be made out. They seem to be much more sharply defined in outline, and the protoplasm is more highly refractive, thus making them more readily visible. The amœboid movements are less, the pigment-granules are larger, are darker in color, have little or no movement, and as a general rule this pigment is collected as a band around the periphery of the parasite. "At the end of from sixty-four to seventy-two hours the parasites have reached their full development." They then appear as round or ovoid bodies, somewhat smaller than a red blood-disc; and around their periphery may often be seen a very thin circle of the remnant of the blood-disc. A short time before the malarial paroxysm begins, the pigment-granules, which up to this time have been arranged around the periphery, begin to collect in the centre of the organism. The pigment seems to be impelled toward the centre in a regular and orderly manner, as though by a constant and organized force: this is, starting in from the periphery it follows what seems to be regular routes, and to give a "star-shaped" arrangement to this pigment.

This pigment does not remain very long in this shape, but is finally collected into a central compact mass. At this stage in the cycle, minute striations begin to show around the periphery

of the parasite, and soon we have segmentation taking place: the same as in the tertian variety—the organism breaking up “into from six to eight to ten to twelve small, pear-shaped leaflets, each containing a central, more refractive point.” These segments become the small, round-ovoid bodies and hyaline forms, and, just as in the tertian variety, are ready to commence another cycle of growth.

All of the parasites do not segment, but just as in the case of the tertian type they may remain as large pigmented, extra-cellular bodies, or they may break up and form fragmented bodies, or they may form the flagellate bodies.

3d. In regard to the *æstivo-autumnal* type.

The third variety of the malarial parasite is the *æstivo-autumnal* variety. In its earliest development it is indistinguishable from the tertian and quartan types, but as its growth proceeds various differences may be made out between it and them.

Thus at first are seen the small hyaline bodies. These are said to be smaller than those of the other varieties, and more highly refractive. This parasite also assumes the amoeboid form: may be seen to throw out the pseudopodia and arrange itself in different shapes. Soon pigment-granules begin to appear. These granules are not as numerous, nor as active nor as coarse as in the other varieties. The granules appear as very minute specks, but gradually increase a little in size—lying at first at the periphery of the organism, and later in the centre.

The organism, as a general rule, does not grow to fill the corpuscle to the same extent as the other varieties do. It rarely exceeds one-third the diameter of the blood-disc.

The pigment is often observed to assume a solid, “smeited-like” mass in the centre of the corpuscle. After the organism has attained a certain growth, it escapes from the corpuscle, and segmentation occurs, just as in the tertian and quartan forms: the segments are quite small, and in number from twelve to twenty. In many instances, where the fever continues for a week or more, we find the peculiar bodies known as crescents and ovoids appearing. They become more plentiful the longer the case continues. These crescents are pale, sickle-shaped bodies, and have the pigment collected about the centre. The horns of the crescents are more or less obtusely rounded, and often a delicate line may be seen connecting the two extremities of the horns. Various theories have been advanced to explain the oc-

currence of these crescents and their functions. Bignami suggests that they are deviate and sterile forms of the parasite, which do not go on to reproduction. This seems as if it might be probable, for these crescents are found even long after a case has been under the influence of quinine and has seemingly recovered. They have also been found in the blood of old malarial cases, when there is no fever present at all. This parasite of the aestival-autumnal type at times goes on to the flagellate form, as do its prototypes in the tertian and quartan varieties. The cycle of this parasite's growth varies from less than twenty-four hours to more than forty-eight hours.

IN RECAPITULATION.

TERNIAN.	QUARTAN.*	ÆSTIVO-AUTUMNAL.
Cycle of development, 48 hours.	Cycle of development, 72 hours.	Cycle of development, from less than 24 to more than 48 hours.
Faint and indistinct.	Sharply outlined and highly refractive.	Highly refractive.
Actively amœboid.	Slightly amœboid and finally motionless.	Slightly amœboid.
Reddish-brown pigment in fine granules; actively motile.	Coarse, dark, almost blackish granules of irregular size. Little or no motion.	One or two minute dark granules, with little or no movement; at first on the periphery; at segmentation collect in a solid mass in the centre of the parasite.
Size of parasite, filling the corpuscle.	Size of parasite, rarely filling the corpuscle.	Size of parasite, about one-third filling the corpuscle.
Extra-cellular bodies are sometimes twice as large as a red corpuscle.	Extra-cellular bodies are rarely as large as a red corpuscle.	Extra-cellular bodies often smaller than the red corpuscle.
Segmenting forms usually as large as a red corpuscle, the segments numbering usually from 15 to 20.	Segmenting forms not as large as a red corpuscle, the segments numbering usually from 6 to 12.	Segmenting forms not as large as a red corpuscle, the segments numbering from 15 to 20, and quite small.
Flagellate forms large, and pigment-granules fine.	Flagellate forms small, and pigment-granules are coarser.	Flagellate forms small and pigment-granules frequently collected into a ring in the centre of the organism.
		Crescents and ovoids.

The foregoing has been a *very brief* and, as I am aware, an incomplete history of the morphology of the malarial parasite.

No one has yet succeeded in discovering the form in which

the malarial parasite exists outside of the human body ; nor the form in which it gains entrance thereto.

THE DIFFERENT TYPES OF THE MALARIAL FEVERS.

The tertian form of this parasite gives rise to the form of fever which we recognize as having a paroxysm every third day; that is, a fever, with an apyrexial period of twenty-four hours. Now, when two sets of these tertian parasites gain entrance to the circulation, and each set has a different time for developement, we then have what is known as a double tertian, or as we speak of it, a quotidian fever. These daily paroxysms are produced by the maturation of one or the other of these parasites every day; that is, they alternate. Sometimes under the influence of medication or else by their own "crowd poison" one set is destroyed, and, only one set being left, we have the case change from a quotidian to a tertian type.

Then, again, the quartan type of organism in taking from sixty to seventy-two hours to complete its cycle of development, we have the quartan type of fever produced; that is, a paroxysm every fourth day—with two days of an apyrexial period.

If two sets of the quartan type gain access to the circulation, and mature on different days, we would then have a double quartan, or a paroxysm two days in succession, with an apyrexial period every third day, etc.

Again, should three sets of the quartan parasites, gain entrance to the circulation, and all mature on different days, we would have a paroxysm every day—a quotidian fever produced by the quartan parasite.

Another combination would be a set each of the quartan and tertian type combined: that is, a paroxysm two days in succession, with an apyrexial period on the third day, a paroxysm on the fourth day, with an apyrexial period on the fifth day, to be succeeded by paroxysms on the sixth, seventh, and eighth days: the ninth day apyrexia, etc., etc.

Then, again, a single set of the quartan parasites, combined with a double set of the tertian parasites, maturing on different days, will give a quotidian paroxysm with a very great rise of temperature on the day in which one set of the tertian and one set of the quartan parasites both mature on the same day; that is every fourth, seventh, tenth, and thirteenth day, etc.

The æstivo-autumnal parasite, combined with either the tertian or the quartan parasite, will give rise to even a greater num-

ber of irregular forms of this fever. Thus we have the regular and irregular intermittent, the regular and irregular remittent, and the pernicious forms of this fever.

These fevers are all characterized by paroxysms of temperature elevation. In the pernicious forms the patient seems to be quite overcome by the virulence of the poison. The temperature rapidly becomes hyperpyrexial; in some cases reaching 110° F. These are the rapidly fatal cases—coma coming on, and the patient dying in a short time. In this pernicious type of fever, remedies seem to be of little or no avail in influencing the disease.

With such intense and rapidly increasing temperatures, one is naturally inclined to inquire, why this extreme evolution of body heat? I think that it is now an accepted fact that *all fevers are due to toxin circulating in the blood*, and influencing in some way the inhibitory heat centre.

In these fevers it has been observed by Prof. Dock that the plasmodia reach their maximum size about the time the temperature begins to rise, and that segmentation begins within a period of not more than three or four hours later (*Medical News*, May 30, 1891).

It will be remembered that, in the morphology of these parasites, segmentation takes place when the parasite seems to have reached its extreme limit of development; and that this segmentation represents the most mature condition of the parasite. It is more than probable that, at this segmenting period, the parasite has developed the very highest virulent condition, and is able to elaborate its toxin in a very concentrated form, or in very great abundance; and hence it is that, at this period in the cycle, we have the profound toxemia. The young hyaline forms, which result from the segmentation, are weak and feeble at first in generating this toxin, but as time passes they grow, become stronger and more aggressive, and, following the general rule of all bacteria, as they grow larger and stronger, they are able to produce and throw off more toxin; hence it is "that the time necessary for the parasites to reach, by multiplying, the number necessary to produce toxin enough to determine the fever"—this is called, in general parlance, the incubation period of a disease. If this toxin has such a poisonous effect on the human body, it is but natural to suppose that it also has a deleterious influence on the vitality of the malarial parasite. Indeed, this in reality occurs, for we find that after a malarial paroxysm there are very many

fewer malarial parasites present in the blood than just before. The toxin acts on the malarial parasite just as it does on the human organism ; that is, it kills certain numbers of them ; and in some cases all of them, and thus sometimes we have very rapid spontaneous recoveries.

This malarial "*crowd poison*" is, indeed, one of the potent factors in the recovery of many cases of malarial fever.

It is during the apyrexial period that the organisms grow, producing few or no symptoms. It is only when the stage of segmentation is approached that the temperature begins to rise, and reaches the acme about the time that segmentation has been completed ; then declining to normal, the paroxysm lasting an indefinite period, depending on the potency and quantity of the toxin evolved.

In the ordinary tertian, and double tertians, the quartans and their combinations, the length of the paroxysm averages from about six to ten hours.

In the æstivo-autumnal, or the remittents as they are commonly called, the duration of the paroxysms is much longer, averaging from eighteen to twenty-two hours, or even as long as thirty-six hours in some cases ; thus it is, the overlapping of these paroxysms which gives the irregularly continuous fever : that is, the toxin produced by one set of organisms does not become eliminated before the advent of a fresh quantity of toxin by the succeeding set of organisms.

In the pernicious and congestive forms of these fevers, the toxin is in such a virulent form that sometimes one paroxysm is sufficient to cause the death of the patient.

It is not the high temperature which kills in all cases, for we find that in some cases the temperature becomes subnormal, 96° F. or less, and remains so, the patient dying in a condition of coma, just as in the hyperpyrexial cases.

Now concerning the chronic forms of the disease, or those cases in which a single paroxysm recurs at long intervals. These cases are explained by Bignami as follows : Certain of the malarial spores are included by phagocytes, and remain dormant for a long time ; that, then escaping from the grasp of the phagocyte they undergo development.

In regard to the types of the malarial fever found in different parts of the world. It has already been stated that the types of this fever found in our own country are: the tertian, the quartan, and the æstivo-autumnal ; and that all of the irregular forms of

this fever are due to an infection with one or more of the different kinds of parasites, either singly or combined. These we find reported from widely different parts of the United States. The examinations of the blood in many of these cases showed the tertian, the quartan, or the æstivo-autumnal parasites, either singly or combined. In the malarial fevers of the West Indies, of Italy, of Algeria, of Mauritius, and of Hong Kong, the same forms of the tertian, the quartan, or the æstivo-autumnal parasites have been found, as we find in our own malarial cases here at home.

In an editorial appearing in the London *Lancet* for June 16, 1888, we find it stated that Dr. Vandyke Carter, in examining the blood of malarial-fever patients in India, found the same organisms as had previously been described by Laveran; again in the same paper, under date of August 1, 1891, Dr. Prout, the government medical officer, Gold Coast, West Africa, reports that the malarial fevers occurring in that region are the same as occur in other parts of the world, except that in some cases they are very severe. In the examination of fresh blood-specimens, he reports finding, and gives drawings of, intra- and extra-corpuseular organisms in the blood, which are identical with the hyaline, amoeboid, pigmented, and flagellate bodies described by Laveran, Osler, and others as occurring in the blood of malarial-fever patients in widely different parts of the world. The malarial parasite seems to be universally distributed, and develops the same way in the tropical, as in the colder latitudes; the cases only differing in severity; a cool region seeming to inhibit their growth and virulence to a certain extent; while the contrary to this is found in the warmer latitudes.

In searching for the malarial parasites, the best way is to examine fresh, unstained preparations. The following mode of procedure is generally recommended:

Prepare several thin cover-glasses and slides, by removing all dirt and grease, by means of alcohol. If the specimen is to be taken from the finger, clean it well with soap and water; then with alcohol or ether. Make a puncture into the finger with a clean needle, and allow the first drop of blood to run off; as the following drop forms, lightly touch it with one of the cover-glasses, and then with the other cover-glass, pressed close to it, strip the blood, in the same way as in the preparation of a specimen of sputum. Place the cover-glasses on the slides and examine immediately. In this way the malarial parasites are seen alive, and, in certain stages of development, in active motion.

According to the development or growth of the organism will the appearance of the microscopic field be.

If examined at the height of the fever, and in a recent case, the small hyaline and amœboid forms, together with free pigment granules, will be seen.

These hyaline and amœboid forms may be intra- or extra-corpuscular. Later than this most of the hyaline and amœboid forms will be found to be intra-corpuscular, and to have increased considerably in size, become pigmented, and in certain varieties this pigment to be in active motion; the amœba-like body to change its shape quite rapidly. It will also be noticed that the hemoglobin of the red corpuscles is destroyed, to the extent of growth of the parasite. Any of the different forms of the parasite may be seen, depending of course on the time at which the examination is made. The segmenting, flagellate, and crescentic forms represent an older stage in development, and, as stated before, are merely varieties in the morphology. The preparation of the stained, or permanent, preparations is more difficult. The blood is taken and stripped, the same as in the fresh preparation. The blood is then allowed to dry, care being taken to exclude dust. The cover-glass is then immersed for several hours in a mixture of ether and absolute alcohol, or it is flamed; this is done in order to fix the specimen to the cover-glass.

There are many methods of staining proposed, some difficult, others not. One of the easiest and most popular, and one which gives the most satisfactory results, is the following :

STAINING SOLUTION.

Saturated solution of methylene-blue,	60 parts
One half per cent. solution of eosin in 75 per cent. alcohol,	20 parts
Distilled water,	40 parts
Twenty per cent. solution of caustic potash,	12 drops

The specimen, after being fixed to the cover-glass, is placed in this solution for five or six minutes, then washed in water, dried, and mounted in Canada balsam.

Chenzinsky's stain, which is almost identical with the above method, is used by many. Either of the foregoing stains is supposed to stain the red blood-corpuscles a light red; the leucocytes a light blue and their nuclei a deep blue; the eosinophile granules of the leucocytes a deep red; and the parasites of malaria a blue.

Laveran gives the following method: Fix the preparation in equal parts of ether and alcohol for a short time; wash in water.

dry, and stain in concentrated watery solution of eosin for half a minute; wash, dry, and stain in concentrated watery solution of methylene-blue for half a minute; wash, dry, and mount in Canada balsam.

I have made quite a number of stained preparations by this last method, and can bear testimony to its ease of application and to its most excellent results. I allow the methylene-blue solution to remain in contact for one and a half minutes.

This staining by separate solutions has always given better results than by mixing the stains beforehand.

Eosin, an acid stain, mixed with methylene-blue, an alkaline stain, certainly leads to a decomposition of either one or the other, and the result is unsatisfactory. Laveran advises mounting the stained or unstained preparations dry, and sealing the edges of the cover-glass with paraffin. He says that the Canada balsam renders the malarial organisms too transparent, especially the crescentic forms. He further says that he has not as yet found any stain for the flagella; and that it is very rare to see them even in the dried preparation. The fresh wet preparation is the only one showing them to any certainty.

Quite a number of healthy persons have been inoculated with the blood from malarial-fever patients, and in many of these cases, the same type of fever was produced, as existed in the patients from whom the blood was taken.

The blood from cases of tertian, quartan, and æstivo-autumnal patients has been injected into healthy individuals, and the same type of organism found in the blood of those experimented on, as existed in the blood of the persons from whom it was taken. Blood containing the tertian organism produced the tertian type of fever; the quartan type was produced by blood containing the quartan organism; and the same with the æstivo-autumnal. The incubation period, after the injection, was generally from about 10 to 14 days. Recently Dr. Mattei experimented by injecting blood from a case of quartan fever, into four healthy persons. In two of these cases a typical quartan fever was produced, after an incubation period of about two weeks—the blood of these patients showing the quartan parasites. In another case, the blood from a case of quartan fever was examined, and found to contain the parasites peculiar to that type of fever; a quantity of this blood was injected into a healthy person, and at the end of two weeks the quartan parasites were found in the blood of this person, and an irregular fever was present.

Thus these experiments prove, in cases which are not immune, that the malarial parasite is capable of being transferred, from the blood of one person to that of another, and each type of organism to produce its own type of fever.

How does this malarial parasite gain entrance to the human circulation? It is certain that it gains access by either one of the following ways, viz.: By the respiratory tract; by the digestive tract; or by the skin.

In regard to the infection by the skin, it hardly seems possible that the bites of insects can convey the parasite; yet some observers have contended that the mosquito can convey the parasite, and in his puncturing the skin introduce it.

Much has been written concerning the carrying of the malarial "miasms" by currents of air. We have all read of numerous cited examples of winds carrying the infection to considerable distances, of persons having been infected in passing by pools of stagnant water, of the effect of newly upturned earth, of exposure to the night air, and of countless other ways in which malarial fever can be contracted; all these ways seem to indicate its entrance into the system by means of the respiratory tract.

A very interesting article in regard to the introduction of the malarial parasite into the system by means of drinking-water appeared in the *Sanitarian* for December, 1894. It is by Dr. Richard H. Lewis, secretary of the North Carolina Board of Health, and is entitled "Drinking-water in its Relation to Malarial Disease." Dr. Lewis believes that malarial infection is largely, if not wholly, caused by using surface-subsoil water. In this article he says that "for years I have not had a doubt that drinking-water was one of the principal, if not the chief one of the avenues by which the malarial poison obtained an entry into the human system." Dr. Lewis sent letters all over his State, asking for *data* concerning the prevalence of malarial diseases both before and after the use of drinking-water from very deep driven wells. Prior to the advent of the deep driven wells, certain parts of his State were almost uninhabitable, on account of the malarial fevers. The testimony of nearly all the physicians who were written to was to the effect that the use of drinking-water from the deep driven wells had, in nearly all the localities, greatly lessened, and in some places had entirely prevented, malarial infections.

The testimony of these persons is very strong, and is certainly not without a vast amount of truth; so much so, in fact, that

it seems highly probable that the drinking of water containing the spores of the malarial parasite is one of the most certain ways of infection. Laveran, in his work on paludism, says : The drinking-water ought to be the subject of scrupulous attention in the malarial localities, particularly during the endemo-epidemic season. If one is not certain that the source of the drinking-water is free from malarial contaminations, it should be filtered, or, better yet, boiled.

Immunity to the malarial parasite certainly occurs, just as it comes about for other diseases. An antitoxin is certainly produced in the system, just the same as it is in a large number of other diseases.

Hence, we can explain why it sometimes takes weeks to effect the eradication of this parasite. It has already been mentioned that the pyrexia destroys a large number of the young forms of this parasite ; it is equally certain that an antitoxin inhibits the growth, or acts destructively on many more, of these parasites ; there is yet another factor, which nature employs to rid the system of this parasite, and that is, the phagocytes. Competent observers have seen the phagocyte elongate, throw out pseudopodial processes, which encircle the parasite, and then gradually, but surely inclose the intruder.

There is no better illustration of positive chemiotaxis than has been observed in this war of the phagocytes on the parasites of malaria.

Is this malarial parasite capable of producing symptoms other than those generally associated with the malarial fevers ?

Dr. Winfield, of this city, has recently advocated the theory that herpes zoster may be caused by this parasite. In eight cases examined by him, he has found the malarial parasite present in the blood of four cases. The forms found were, " the intercellular and free pigmented forms of the plasmodia."

A word concerning the anemias of the malarial fevers. One striking appearance, which always accompanies the malarial fevers, is the impoverishment of the blood. When we remember that the malarial parasites depend on the red blood-corpuscles for their nourishment ; that the hemoglobin is the pabulum on which these parasites feed ; and that its rapid disappearance is in proportion to the number, activity, and duration of these parasites,—it is easily explained why we have such pallor and all its accompanying symptoms. We can almost imagine our patients asphyxiated, not for want of oxygen supply, but for want

of oxygen-carriers. The destroyed or partially destroyed red blood-corpuscles float in the serum as so many disabled and useless units, only being removed by the process of repair, which finally comes about on the death of the parasites. This anemia is, then, one of the most common manifestations of these destructive parasites.

It has been proposed to give the remedies for the destruction of these parasites, at a time when they are the weakest—therefore the most easily destroyed. This has been found to be at the segmenting period, and, as has been mentioned before, this takes place at about the time the pyrexia has reached its highest point. The remedy should be given an hour before this time, and preferably in solution, so that it will be in the circulation by the time segmentation is reached. The same rule, under another name, is to have the remedy in the circulation, ready to act by the time the fever begins to decline.

Administered at that time, in several divided doses, as proposed by Prof. Dock, is the most certain way of attacking this parasite.

Within the past two weeks I have had two cases of malarial fever under my care. One of these cases was of the tertian type, the other the æstivo-autumnal type.

In the examination of the blood of the tertian case, just after the chill, I always found hyaline and amœboid bodies. The amœboid bodies contained pigment-granules, which were in extremely active motion, while the organism itself moved slowly across the field. In many of the red corpuscles were the hyaline and amœboid bodies.

In the case of the æstivo-autumnal type I did not examine the blood until ten days after its onset. In one specimen I found the pale crescent bodies and also the flagellate forms.

I was more particularly interested in the case of the tertian type. I always found these pigmented hyaline amœboid bodies; that is, in the four times I examined the blood. It was very interesting to watch these amœboid forms changing their shapes, and to see the actively dancing pigment-granules. Later the red blood-corpuscles showed the parasites in them, and also the destruction of the hemoglobin. I withheld quinine in order to study the morphology of this parasite, and to see whether or not these pigmented bodies would always be present; and to ascertain whether these bodies were really present in the blood or an accidental contamination.

The following mode of procedure was strictly carried out :

The cover-glasses and slides were cleaned with sulphuric acid and water, then with alcohol. The tip of the patient's finger, from where I took the blood, was thoroughly scoured with alcohol, and allowed to dry. The finger was then pricked with a needle, which had just been cleaned with alcohol. The first drop of blood which formed was shaken off ; and as the second one formed, one of the cover-glasses was lightly touched to it, and transferred immediately to a slide and examined.

In order to be perfectly sure that the cover-glasses and slides were free from living organisms, I passed them slowly through an alcohol flame several times before making the contact with the blood. The result was the constant finding of the pigmented amœboid bodies. I put this case on quinine during the rise of the temperature, five grains every three hours, until six or seven doses were taken. Twenty-four hours after the first dose of quinine, I was only able to find one of the hyaline pigmented amœboid bodies after quite a prolonged search—where, before, I had been able to find half a dozen or more in the same length of time.

There was no return of the paroxysms ; the case making a quick and complete recovery.

DISCUSSION.

THE PRESIDENT: This is one of the most valuable papers we have had for a long time in our society, and I hope that it will be thoroughly discussed. The doctor has put a great deal of work upon it and we are honored in being favored with the hearing of it.

DR. J. M. VAN COTT, JR.: Mr. President, the paper itself is so exhaustive in its nature as to leave but little room for discussion. When the Chair announced that he hoped the subject would be thoroughly discussed he forgot, perhaps, that it had been already discussed about as far as possible in the paper.

There are, however, one or two points which the paper brings out and which should be regarded more as matters of logical deduction than additions to the subject of the paper.

One of these points is the similar appearance of the parasite all over the world. There could be no greater argument for the verity of the parasite than the fact, that the drawings made by scientific men, in widely different parts of the world, are practically in accord, notwithstanding that these drawings are made absolutely independent of each other.

Another interesting point is the pigment which resides in the body of the parasite. There has been a great deal of discussion as to the origin of the pigment, and as to certain other phenomena of which the pigment-granules are the origin or cause, in the body of an individual, who has become infected with the plasmodium. The best consensus of opinion I believe to be that the pigment is the coloring matter of the hemoglobin of the blood, that the organism itself feeds on the globulin, and that the coloring matter of the hemoglobin stains the granules which are in the parasite itself. From a diagnostic standpoint the presence of the pigment is of very great value; because when the phagocytes eat up the parasites or do battle against them, they absorb the pigment; thus in patients that are found in coma, when it is impossible to make a diagnosis of the cause of the coma otherwise, the examination of the blood shows a condition of leucocytosis, the white corpuscles, many of them, containing the pigment-granules, constituting the diagnosis.

I remember seeing a case, at the New York Hospital some years ago, of a patient brought in, in coma, and where Prof. Ferguson made an examination of the blood, and established the fact that the white corpuscles were pigmented. Large doses of quinine were inoculated hypodermically, and the patient made a rapid recovery. This was before we knew so much of the plasmodia, and was a case which would have died, except for the fact that the diagnosis was made of the presence of leucocytosis, and the presence of pigment in the leucocytes.

The doctor spoke of the enormous destruction of the red corpuscles, and drew attention to the fact of the anemia, the peculiar cachexia, which must be credited to the fact that the parasite seems to live upon the erythrocytes.

Another very interesting point was in regard to the self-limitation of the disease: the fact that during the progress of the crops, as they grow and mature, and as the toxin produced its effect there is an antitoxin formed, which in time, together with the phagocytes, has the power of destroying the crops, and in that way limiting the disease.

Another very interesting fact, which goes a long way toward proving the existence of these parasitic conditions in malaria, is in the mixed types which we get. This point was very beautifully brought out in the doctor's paper: *i.e.*, that the mixed types of fever have been shown to be in patients in the blood of whom crops in various stages of progression were found. Thus, the

findings which have been made microscopically, explain at once the curious types which one sees of malarial fever; cases where one is led to doubt the presence of the true malarial type, and where the explanation is plain enough on the theory, that the crops are mixed, and that a given individual may be inoculated with fresh crops at varying times.

I can only add my personal thanks for the interesting paper of the evening.

DR. E. H. WILSON: I can only say that I am very glad that Dr. Craig has brought out the importance of attention to details in the technique of his examination. I am afraid that many of us had attempted, with imperfect technique and imperfect apparatus, the discovery of this organism, where we had reason to believe it existed, and have been disappointed. I think that the method of scrubbing the finger with alcohol and ether is a good one, and that a very important point in this step is the preparation of the cover-glass and the slide. Those who wish to do this work should furnish themselves with a supply of No. 1 cover-glasses, preferably circular ones. The reason for this will be understood, when you consider that the best preparations to examine are those which are unstained and which are fresh, and in which we hope to find these organisms in active motion. In this case we prepare the slides according to the method Dr. Craig gave, and then ring around the cover-glass with vaselin or paraffin, preferably vaselin, which prevents evaporation and keeps the preparation in a moist condition for a long time.

Another important thing is the microscope to be used. I believe that the best apparatus for this purpose is a Zeiss 2-mm. apochromatic lens, with the use of a No. 4 compensating eyepiece. Then by means of regulating the diaphragm accurately, and with a good illumination, one can do very good work.

Dr. Craig spoke of the method of double staining, and keeping the stains separate. I believe that that is a very important point. I have used the Czenzynke's solution, but was never pleased with the results. The bad results were due to decomposition in the stain, although it was filtered every time I used it. A stain which I have used with fairly good results is a simple solution of methyl-blue in a sterilized salt-solution— $\frac{1}{10}$ per cent. of salt-solution, and methyl-blue added until the solution became about opaque. The finger, after being cleaned, is punctured through a drop of this solution, and the preparation, after being fixed, is floated on the surface for a few hours, preferably in

the incubator at 37° C. This seems to give the best results.

DR. ARTHUR BRUSH: I have very little to add to the doctor's paper. He certainly brought the matter up to the point where it stands at the present day. I myself have done no work in this direction, since the paper I read before the society two or three years ago, and Dr. Craig has advanced beyond that point which we had arrived at, at that time, in classifying the organism to the different types. At that time we recognized the different types, but were uncertain as to how to assign them, or to explain how they caused the malarial paroxysm.

As to the inoculation of the parasite in animals, I might bring up that experiment which Dr. Bartley and I performed with pigeons, to show how the disease was transmitted. In that case he took a certain number of pigeons, nine or ten, I think, or possibly eleven, filtered the water of the city for 24 hours through a Chamberland filter, and injected certain of these pigeons—which, I did not know. They were brought to me separately and I examined the blood, and they were then returned to the coop. Without knowing which ones were injected, I picked out seven as having been inoculated, and three as not having been injected, or they showed no signs of any organism in the blood.

Of the whole ten pigeons, he had inoculated eight, seven of which I had picked out, and in this seven there was a rise of temperature every day. In the one which I failed to find there was no rise of temperature. In two, no organisms were present and there had been no temperature at all, showing probably that in these cases it was the organism which had caused the malarial paroxysm.

Beyond that I can only express my admiration at the masterly way in which the doctor has dealt with the subject.

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THE GROWTH OF OUR OWN LIBRARY.

In connection with Dr. Chadwick's instructive address reprinted in this number—and it is to be hoped that every one who cares for Brooklyn will read it carefully and lay it to heart—it may be worth while to give an outline of the main facts in regard to our home institution.

At the April meeting, 1895, in connection with Dr. Hunt's obituary of the late Dr. Reese, the writer called attention to the fact that it was the fiftieth anniversary of the beginning of our library (*i.e.*, of the actual appointment of the first Standing Committee on Library, April 14, 1845). But for the first half of this period it had only a nominal existence.

The first librarian (1859 to 1869 inclusive) was Dr. George I. Bennet, though at that time it was a more formal than onerous office. A few works accumulated. The oldest of which we have probable knowledge are three volumes of the State Society's Transactions (purchased in pursuance of a motion passed by the society, April 12, 1847).

Toward the end of the sixties an independent movement, partly supported by members of our society, succeeded in establishing a considerable medical department in the Long Island Historical collection. This was augmented by the library of Dr. Enos, through the generosity of his widow.

To return to our library, its actual modern growth dates from the librarianship of Dr. W. W. Reese (1870-1877 incl.). In the opinion of Dr. Hunt and Capt. Charters it may very properly be dated from the purchase by Dr. Reese of the bookcase at present filled by the surgical section. According to the treasurer's records this was on May 20, 1874.

Of the many who have given invaluable help since, Drs. French and Hunt deserve special mention and Dr. Hutchins also should be remembered. The bequest of the library of Dr. Samuel Hart in 1878 gave a needed impetus. The work of the members and of the special library committee in 1880 and 1881 was important. The increase of accessions due to the *BROOKLYN MEDICAL JOURNAL* (1888 to date) has been marked. Both on withdrawing from professional activity in 1892 as also earlier Dr. W. H. Thayer gave a deal of value. Dr. Schapps and many others deserve fuller mention. And in 1894 came the gift of the library of the late Dr. Geo. R. Cutter, representing the greatest single accession.

To give the yearly accretion is but occasionally possible until 1886-7, when the library committee, of which Dr. F. H. Stuart was chairman, introduced a systematic accession-book. Thanks to the painstaking assistant librarian it has been possible to keep this up ever since. The numbers for previous years, as far as obtainable probably refer to bound volumes only.

Numerous papers referring to these matters had been kept by Dr. Hunt. Others his successor has sought to collect. All such notes regarding library history are now arranged and preserved in a special volume. Any one who may help perfect our *data* will confer a common favor.

The table of growth as far as can be made out is as follows:

Year.	Accessions during Year.	Total at End of Year.
1847	3 purchased	
1875	90 vol. given by Mrs. Christopher	
1876		
1877	15 reviewed, 1 purchased	
1878	47 reviewed, Dr. Hart's library	562
1879	31 reviewed, yet total gain but 23	585
1880	10 reviewed, 157 purchased by com., 37 bound	789(?)
1881	24 given, 69 bound, 82 purchased by com. and 10 by society	974 (?)
1882	3 bound	

Year.	Accessions during Year.	Total at End of Year.
1883	27 given	
1884	no increase	
1885		
1886	70 bound	2199
1887	250	2449
1888	351	2800
1889	880	3680
1890	202	3882
1891	670	4552
1892	35 + 1368	35 + 5920
1893	42 + 1129	77 + 7049
1894	2328	77 + 9377
1895	1130	77 + 10507
1896	Total to date, about	10700

The 77+, etc., refers to the property of the Brooklyn Medical Book Club.

Of late years duplicates have not intentionally been accessioned. If it ever be possible to give the increase of the earlier years more accurately it will then be in order to classify the annual accessions in the standard manner (books and pamphlets). This would show that the later growth has been more by pamphlets and that at present scarcely two-thirds of the whole can be reckoned as books.

WILLIAM BROWNING,

Librarian.

Brooklyn, March 12, 1896.

COMMITTEE ON MEMBERSHIP.

By a mistake of the printer, the name of Dr. William N. Belcher was omitted from the report of the Committee on Membership, which was made at the annual meeting of the County Society. In the work which this report chronicled, Dr. Belcher did his full share, and without his aid and counsel the results would have been of far less value to the Society.

NARRATION OF CASES.

Drs. Chase and MacEvitt narrated cases of ectopic gestation.
Discussed by Drs. L. G. Baldwin and Corcoran.

FRANK BALDWIN,
Secretary.

...

BROOKLYN SURGICAL SOCIETY.

Meeting of October 17, 1895.

Dr. C. H. Terry, President, in the chair.

PRESENTATION OF TUMOR INVOLVING SPERMATIC CORD, BY DR. FOWLER.

The doctor stated that the history of the case is interesting, from the fact that the growth made its appearance and attained its great size (that of a child's head at term) in the course of nine months. It was entirely painless. There was nothing to suggest malignant disease in the case, the report of the microscopist confirming the diagnosis made by the gross appearances, namely, fibro-lipoma. The growth passed between the vessels of the cord, separating them from the vas deferens.

Tumors of this nature are exceedingly rare in the location in which this was found. The testicle itself was free from involvement; the cord simply was involved. It was all kept in the scrotum. The patient was about forty years old and weighed about 180 pounds.

Dr. Fowler presented a specimen of osteitis which occurred in the sawn extremity of a femur in which an amputation had been performed for tubercular disease of the knee-joint. The amputation was done at St. Mary's Hospital early in the spring. Although the stump has appeared to be in a healthy condition otherwise, there has been a persisting sinus. To-day, under an anesthetic, the stump was split down through the centre, the soft parts laid back, and the end of the femur, found diseased, removed. The case was presented as being one of the forms of disease in the stump in which the possibility of an osteitic process resulting from a tubercular infection, was followed by a suppurative infection.

Meeting of November 21, 1895.

Dr. Bristow presented a specimen of rhabdo-myoma of the left broad ligament, which he had removed the day before, together with a large multilocular cyst of the right ovary from a patient in St. John's Hospital. These rhabdo-myomata are of rare occur-

rence in this situation. A curious feature of the history of the large cyst was the fact that the woman insisted that it attained its full size in about four hours. This shows that with regard to the time of appearance, duration, and growth of abdominal tumors, little dependence is to be placed on the statements of the patient.

Dr. Wackerhagen presented an instrument adapted by him as an additional convenience to the use of the Otis dilator, and stated that he had had it in use for four years, but had not presented it to the society before because he wanted to be very certain that it was an improvement upon the original Otis instrument.



MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society's Building, 356 Bridge street, on Tuesday evening, February 18, 1896, at 8.30 o'clock.

The President, Dr. Geo. McNaughton, in the chair.

Dr. W. C. Braislin, Asst. Secretary.

The minutes of the January meeting were read and approved.

REPORT OF COUNCIL.

The council reported favorably upon the following applications, and recommended that they be elected to membership:

Dr. Thomas B. Spence, P. & S., N. Y., 1893.

Dr. Charles R. Butler, N. Y. Univ., 1893.

Dr. Wm. Y. Finch, P. & S., N. Y., 1894.

Dr. W. C. J. Schmidt, Univ. Vermont, 1894.

APPLICATIONS FOR MEMBERSHIP.

The Secretary presented the following applications:

Dr. Frank Denton Merritt, 689 Lafayette Ave.; P. & S., N. Y., 1893; proposed by Dr. Alex. Hutchins, Dr. David Myerle.

Dr. Martin Lawrence Bodkin, 88 Sands Street; P. & S., N. Y., 1894; proposed by Committee on Membership.

Dr. Wm. B. Hustis, Flatlands, L. I.; Licentiate Greene Co. Med. Soc., 1875; proposed by Dr. W. B. Chase, Dr. D. Myerle.

Dr. Giovanni Carujo, 298 Third Ave.; Univ. Naples (Italy), 1888; proposed by Committee on Membership.

Dr. L. J. Morton, 303 Henry Street; L. I. C. H., 1884; proposed by Dr. Geo. McNaughton, Dr. W. C. Braislin.

ELECTION OF MEMBERS.

The following, having been regularly proposed and favorably acted upon by Council, were declared elected to membership:

Dr. Wm. A. Seimel,	Dr. Lewis G. Langstaff,
Dr. Lewis N. Anderson,	Dr. Chas. L. Dodge,
Dr. James J. Bowen,	Dr. Chas. J. Hettesheimer,
Dr. John R. Stevens,	Dr. J. H. Dent,
Dr. Harold Bryn.	

SCIENTIFIC BUSINESS.

Dr. Arthur Conklin Brush presented a paper on "Mental Influence in Pathological Conditions."

Discussed by Dr. Briggs.

Dr. H. A. Fairbairn presented a paper on "The Use of Opium in Pneumonia."

Discussed by Dr. F. H. Colton and Dr. Briggs.

UNFINISHED BUSINESS.

The President announced that the Committee on Directory for Nurses, the Entertainment Committee, and the Historical Committee would remain the same as last year.

He appointed the following Committee on Public Health:

Dr. Geo. A. Evans, E. H. Bartley, Lucy Hall Brown, J. M. Van Cott, Jr., and Wm. Waterworth.

NEW BUSINESS.

The President announced the death of Dr. I. H. Barber, one of the oldest and most respected members, as well as an officer, of the Society.

Dr. William Browning (on behalf of Dr. J. M. Winfield, a member of the Legislative Committee of the State Medical Society) called attention to a bill now before the Legislature—"To provide for four years' study of medicine and attendance on four regular courses of medical instruction of not less than six months each, at regularly incorporated medical colleges, preliminary to receiving the degree of Doctor of Medicine, etc."

Dr. Browning read the bill for the information of the Society and called attention particularly to two clauses: one, repealing all previous legislation on the subject, and the other, that this bill should not go into effect until the 1st day of January, 1897, the result of which would be that from the date of its passage, should it become a law, until the first day of January, 1897, there would be practically no restrictions to the entrance of any one, no matter how unfit, to the practice of medicine.

He therefore moved "That the Secretary be instructed by the Society to energetically protest, in the name of the Society, against the passage of this act."

Dr. Cox said he presumed it was not the intention of the Society to put a millstone around the progress of medical education, by opposing this measure, but that it was dangerous to disturb existing legislation regulating the practice of medicine, and that the protest of the Society against the bill was because it was presented from ulterior motives.

A vote being taken, Dr. Browning's motion, being duly seconded, was unanimously adopted.

There being no further business, on motion adjourned.

WM. C. BRAISLIN, M.D., Assistant Secretary.



HISTORICAL DEPARTMENT.

On Thursday, May 14th, the Medical Society of the county of Kings will celebrate the centennial anniversary of the first vaccination of the cowpox as a protection against the most terrible disease which ever afflicted the human race. Though the plague was more deadly, it only visited the civilized world at long intervals, but the smallpox was always present, destroying annually nearly a million people, and the best authorities agree that during the eighteenth century no less than 45,000 people died from the dread disease in Europe; while in some portions of Asia cities were actually abandoned by their inhabitants to escape the disease which spared no one; and in America more than half of the afflicted Indian tribes were sacrificed to its ravages.

When we contrast the eighteenth century with the nineteenth all will admit that the Entertainment Committee cannot go too far in making the anniversary an event which will honor not only the name of Jenner and his work, but also the medical profession of the fourth city of the republic.

We present Jenner's portrait in this number of *THE JOURNAL*. A biographical sketch of him will be found in *THE JOURNAL* for Dec., 1891 (Vol. I).

DR. JAMES AUGUST BLANCHARD.

Dr. James A. Blanchard, late superintendent of the Inebriate Home, at Ft. Hamilton, was a member of the Medical Society of the County of Kings between the years 1868 and 1878.

Dr. Blanchard was born in Norwich, Conn., in 1840, and was therefore at the time of his death, at Ft. Hamilton, on Jan. 8th. of this year, 56 years old.

He received his medical degree from the College of Physicians and Surgeons, in New York, in 1867, and began the practice of medicine at 695 Warren street, Brooklyn, in 1867. In 1878, he removed to Hoosick Falls, N. Y., but returned to Kings County to assume the superintendency of the County Lunatic Asylum at Flatbush in 1880. He had been physician to the asylum from 1874 to 1877. The following year he became superintendent of the Inebriate Asylum, where he continued until his death.

He served in the army as a medical cadet from June 20, 1865, until December of that year, and was for one year surgeon to the 25th New York regiment. He was a member of the Physicians' Mutual Aid Association, and the Hamilton and Crescent clubs of Brooklyn, and the Twilight Club of New York.

We clip the following from the Brooklyn *Eagle*: Catharine V. Maher McLean, the wife of Dr. Henry C. McLean, ex-member of the Board of Education and physician of the Brooklyn baseball team, died on Saturday, March 14th, at her home, 101 Sixth avenue. She was foremost among the many women engaged in local Catholic charities, and especially active in the parish of St. Augustine. She was one of the organizers of the Brooklyn Women's Catholic Club.

MISCELLANEOUS.

MEDICAL LIBRARIES: THEIR DEVELOPMENT AND USE.

BY JAMES R. CHADWICK, M.D.,
Librarian of the Boston Medical Library Association.

(From the Boston *Medical and Surgical Journal*, January 30, 1896.)

In accepting Dr. Osler's invitation to give to you a short address upon the medical library, its development and use, at the inauguration of the new building of the Medical and Chirurgical Faculty of Maryland, I find myself handicapped by lack of time for adequate preparation and an experience which is restricted to one locality, the city of Boston. Still I have had practical knowledge of the building up of a library from a few

hundred to twenty-six thousand volumes and twenty-three thousand pamphlets. The lessons learned in the twenty years of labor may not be devoid of interest and value to you.

Soon after a young man graduates from the medical school and assumes the responsibility of the lives and health of his fellow-beings, he soon realizes the limitations of his knowledge, and looks about to remove them. He finds two principal means of adding to his meagre acquisitions—hospitals and books. Hospitals, including dispensaries, if assiduously frequented, certainly teach him more of immediate practical value than do books. But the knowledge there acquired does not always bear upon the particular case in his private practice which is causing him anxiety, and, moreover, the hospital has the disadvantage of being available only during certain hours of the day and of necessitating absence from his field of labor during the hours when he ought to be earning his livelihood.

To the printed words of his masters and colleagues he must consequently turn, and where shall he find them? His own few shelves contain the treatises from which he learned the first rudiments of his knowledge, but in our day every one of these is superseded in two or three years by the rapid advance of medical science.

In the early years of practice, few men can afford to buy or even give shelf-room to a tenth part of the books that he needs; no man, whatever his means, can possibly acquire all. A library is consequently indispensable in every centre of population, or the health and lives of the community will be jeopardized by the ignorance of its medical practitioners. Could this fact be realized by the liberal men of means in our midst, self-protection, if no higher motive, would stimulate them to endow our medical libraries with as free a hand as they now evince toward hospitals. The benefits conferred upon suffering humanity would be greater, though less manifest, to the ordinary man of wealth.

Admitting, then, that a medical library for the use of the profession in every community is indispensable, and recognizing that we must not expect many contributions from the public, by what direction of our efforts can we procure it?

I appreciate that you do not need to be told how to make a start, for I well know that in the thirty-third year of your age (1832) you established a library in your society under the fostering care of Dr. Samuel Baker; that in 1852 the first catalogue was published by Dr. John W. Woods; and that a few years

later Dr. George W. Miltenberger raised funds for the increase of the library with such marked success that you already possess about 10,000 volumes, ranking among the larger medical libraries of the country.

As a stimulus to fresh effort to increase your already large library, I have had this chart constructed, showing the yearly rate of growth of the seven largest collections of medical books in the country. An explanation of the peculiarities of the curves will throw much light on the various means by which the growth of each library has been effected.

The first library to be founded was that of the Pennsylvania Hospital, in 1762; there has been a comparatively steady increase to the present day, no annual enumeration having been made. It now numbers 15,007 volumes. The difficulty of procuring books in the last century and the early decade of this can be appreciated from a printed circular distributed about 1805 to the members of the Second Social or Boston Medical Library, in which it is stated that "the books ordered last year from Europe have not yet been received."

The second library in order of seniority is that of the College of Physicians in Philadelphia, which was commenced in 1788. Its curve of growth shows such great fluctuations that a brief study of them will be profitable in making evident the means by which a library is augmented. You will note that the increase was very slow for sixty years, when in 1858, 1265 volumes were received from Dr. Thomas F. Betton. In 1864-65 the library was almost doubled in size, chiefly by the gift of 2500 volumes from Dr. Samuel Lewis, who from that date until his death was a constant contributor to its alcoves, the aggregate of his donations ultimately reaching the grand total of nearly 10,000 volumes. The erection of a fireproof building in 1864 also contributed to securing many accessions. Between 1882 and 1886 the growth was very rapid owing to the receipt successively of the libraries of the late Dr. William F. Jenks, Dr. Alfred Stillé, Dr. Samuel D. Gross, Dr. I. Minis Hays, Dr. John S. Perry, and that of the Obstetrical Society of Philadelphia.

In 1880 to 1882 Dr. S. Weir Mitchell contributed \$2000 as a journal fund, and, later, when president, roused, by his love of books and his enthusiasm, the greatest interest in the library, whereby it grew rapidly. The falling off of its curve and that of the New York Academy of Medicine in the 80's merely means that duplicates were thrown out. The college now contains

49,748 volumes, besides 28,384 unbound pamphlets, reports, and transactions.

The library of the New York Hospital was founded in 1796, had a steady increase until 1876, when, like all the others, it took on a more rapid growth. It now numbers 22,383 volumes, but has practically no pamphlets. The library of the Surgeon-General's Office in Washington, begun in 1845, grew so slowly that in 1865 it contained less than 2000 volumes. Its increase from that date has been so phenomenal that we are warranted in pausing to seek an explanation, which is not, however, hard to find. It was in that year that a young army surgeon, Dr. John S. Billings, who had shown literary tastes and marked executive ability during the War of the Rebellion, was detailed to take charge of this insignificant collection of books. He at once conceived the idea of developing this nucleus into a grand national library. By importuning Congress year after year he secured large annual appropriations of money (the annual appropriation for the purchase of books has averaged nearly \$7000 from 1867 to 1895 inclusive), and by persistently canvassing, personally and by letters, the profession of every State in the Union he secured large donations of books. Exchanges were effected with other medical libraries, not only in this country, but in all parts of the world. From these two sources about one-sixth of the total number was derived. The result of his labors is the most complete medical library in the world, consisting of 116,847 volumes and 191,598 pamphlets.

The influence of this one man's work is not seen in the growth of this library only, but is made manifest by the impetus given to all existing libraries and to the formation of innumerable new ones, of which my *data* are still incomplete. The publication of the index-catalogue of this library, the first series of which, in sixteen volumes, was begun in 1879 and completed in 1895, will, when the new series of five or six volumes is issued, be practically an index to all the medical literature of the world up to the end of this century.

Its value to medical scholars is inestimable, superseding, as it does, all the time-wasting labor that used to be expended in bibliographical research. By its aid we obtain a reference to every rare case that has been recorded since printing was discovered, in A. D. 1450. But by indexing the articles and reports of cases in every periodical, past and present, obscure and famous, this catalogue has immensely extended the scope of medical

research and created a demand for an array of books, and especially of periodicals, that is simply appalling. What is an earnest seeker after knowledge to do when he has, for instance, a case of inflammation of the pancreas, and refers to this catalogue for the writings on the subject, when he discovers a reference to a case in the *Medicinischer Jahresbericht von Peter-Paul's Hospital in St. Petersburg*, to another in the *Bulletino di scienza medica di Bologna*, to another in the *Moniteur scientifique*, and to another in the *Zeitschrift für die gesammte Medizin* of Hamburg, so on *ad infinitum*? He cannot possibly have complete files of these various periodicals upon his own shelves. He must have within reach a library, in which most, if not all, these volumes may be found, or he will fail to learn all that can be learned about this subject, and, as a consequence, his patient will suffer from treatment based on half-knowledge.

The demand thus created for periodicals of all kinds and countries has done more than anything else to promote the growth and foundation of public medical libraries throughout our country. This publication is therefore the great factor in determining, during the past fifteen years, the rapid rise of the curves of all the libraries represented upon this chart. The pressure of the demand for an extensive literature thus created will never wane.

The library of the New York Academy of Medicine, inaugurated in 1847, had the same slow growth as all the others until 1876-7, when Dr. S. S. Purple gave to it his large collection of medical periodicals. Its subsequent rapid growth owed much of its impetus to the energy of my old and dear friend, Dr. For-dyce Barker, who, combining the wisdom of age and the enthusiasm of youth, was foremost in securing funds for a new building in 1880, when he was president. In 1890 a new impetus was given to this library by the erection of a superb new fireproof building. This library is fast becoming worthy of the metropolis of the country. It contains 33,140 volumes and 13,000 pamphlets.

The medical department of the Public Library of Boston was founded in 1852, and has grown, by purchase and gifts, at a comparatively uniform rate. It now contains 19,609 volumes.

The Boston Medical Library Association, of which I have been the librarian since its foundation, in 1875, has had a rapid growth from the outset, chiefly because, in its early years, it took into its fold the libraries of several local societies. Its

growth has been almost entirely by donations and exchange, having no funds regularly available for the purchase of books.

Its value is greater than its size would indicate, for the reason that nearly 16,000 of its 26,000 volumes are periodicals, and this class of literature is of most practical value to the medical public. The completeness of our files of journals and transactions I attribute largely to the existence of the volume which I hold in my hand, my "want-book," wherein, upon the left-hand page, is entered every periodical of which we have any part, while on the opposite page is entered every volume or number needed to complete the file of that particular journal. By invariably carrying this with me upon my travels in this country and Europe, I have been able gradually, at a trifling expenditure of money, to complete the files of all the leading periodicals of the world. I submit this to your special attention if you wish to know how to build up a medical library with practically no funds for the purchase of books. This library now contains 26,082 volumes and 23,595 pamphlets.

I have sought by the analysis of these curves to indicate the principal factors in the growth of a medical library. The lessons to be drawn from this enumeration are that if a valuable collection of books is accumulated, the profession will rally to supply for it a suitable abode; and, as my friend Oliver Herford says, "It's a poor pill that will not work both ways," so we find that if a fine building is erected, the library will soon be forthcoming. In either and every case some one man must work early and late to secure contributions and especially to make complete the files of periodicals.

I would not be understood as intimating that money is not needed for the building up of a library. As the Chinese say, "With money you can move the gods; without it you cannot move a man." Money, and much money, is needed for the maintenance of a library. The continuous service of a librarian and perhaps one or two assistants must be paid for. Many hundred volumes must be bound every year. A certain number of periodicals must be secured for your reading-rooms as soon as published, and therefore by subscription. The list of these may be supplemented immensely by securing gratuitously the exchanges of your medical journals; the journals received by your instrument-makers and manufacturing chemists, etc., in return for their advertisements; the journals circulated in journal clubs of medical men after they have gone the rounds. You may also

obtain in exchange for your own *Transactions* the publications of nearly all kindred societies.

Finally, an author, subject, and title card-catalogue must be kept up to date, no matter what the expense. "Who wants a lock without a key, a ship without a rudder, a binnacle without a compass, a check without a signature, a greenback without a goldback behind it?" [O. W. Holmes.]

Before closing, I want to say a word about pamphlets, with regard to which you will have noticed that policies differ widely: the New York Hospital keeps no pamphlets, the Surgeon-General's Library has sixty per cent. more pamphlets than books, the Academy of Medicine has only one-third as many pamphlets as books. Some of this discrepancy is doubtless due to different relative classifications of books and pamphlets. In order to secure uniformity, the rule of the Washington Library should be universally followed: to classify as a pamphlet everything that is unbound, up to a hundred pages, and everything that contains less than thirty pages, even though bound: to classify as a book everything above thirty pages, if bound, and everything above one hundred pages, even though unbound. This is purely arbitrary and may not be invariably followed, but it is as fair a classification as can be devised. No accurate comparison of the size of the different libraries can be made if, as in my knowledge has happened, one library counts everything above thirty pages as a book, whether bound or unbound. It may thus surreptitiously add many thousand volumes, so called, to its aggregate of books, and take thereby an illegitimate rank among the libraries.

Pamphlets should be carefully kept and catalogued in one library in every city. They include most of the graduating theses, which are often compilations of inestimable value: they often contain the results of extensive laboratory experiments: they contain much local history, reports of special committees who have investigated water-supply, drainage, epidemics, quarantine, etc. Reprints of journal articles are of use, even though the library has the file of the journal in which they appear, because they may circulate for home reading when the journal may not be allowed to leave the building.

Classify your library by subjects, making the subdivisions more numerous from time to time, as the books accumulate. Do not agree to keep a man's library, if on various subjects, together as a unit, if you can help it, for you thereby break in

upon your regular system of classification and make the library harder to administer and less available to the readers, besides storing many duplicates uselessly.

As to the use of the books, make it as free as is consistent with their safety. Where the users of a library are all members of an association, and consequently known personally to the custodian, it is generally deemed safe to allow them free access to the shelves. All books that can be readily replaced may circulate for home reading, but no periodicals, for the loss of one volume of these depreciates the value of the whole series.

It is useful to make duplicate files, as occasion presents, of the leading periodicals for home reading. Beyond this be liberal in the disposal of duplicates; there is no market for medical books, so you may as well bank on the future, by giving freely of your duplicates to other kindred institutions on open exchange account, which is never meant to be balanced. You hereby establish a claim upon such institution for any favor it may be in position to do you in the future.

But I find that I am dropping into technical details that can have no interest for any one but your librarian and Committee on the Library.

In conclusion, I want to parry the charge of having too prosaic a view of a medical library, of seeing only the utilitarian side of it. To the deep student, to the true lover of books, nothing that I can say will add or detract from his appreciation of it. Remember what Confucius says: "Learning without thought is labor lost; thought without learning is perilous."



CHAPTER CXI OF THE LAWS OF 1896.

AN ACT

To amend chapter six hundred and sixty-one of the laws of eighteen hundred and ninety-three, entitled "An act in relation to the public health, constituting chapter twenty-five of the general laws," as amended by chapter six hundred and thirty-six of the laws of eighteen hundred and ninety-five.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

Section 1. Laws of eighteen hundred and ninety-three, chapter six hundred and sixty-one, section one hundred and forty-five,

as amended by the laws of eighteen hundred and ninety-five, chapter six hundred and thirty-six, entitled "An act in relation to the public health, constituting chapter twenty-five of the general laws," is amended to read as follows:

§ 145. Admission to examination. -The regents shall admit to examination any candidate who pays a fee of twenty-five dollars and submits satisfactory evidence, verified by oath, if required, that he

1. Is more than twenty-one years of age;
2. Is of good moral character;
3. Has the general education required preliminary to receiving the degree of bachelor or doctor of medicine in this state;
4. Has studied medicine not less than four full school years of at least nine months each, including four satisfactory courses of at least six months each, in four different calendar years in a medical school registered as maintaining at the time, a satisfactory standard. New York medical schools and New York medical students shall not be discriminated against by the registration of any medical school out of the State, whose minimum graduation standard is less than that fixed by statute for New York medical schools. The regents may, in their discretion, accept as the equivalent for any part of the third or fourth requirement, evidence of five or more years' reputable practice, provided that such substitution be specified in the license;

5. Has either received the degree of bachelor or doctor of medicine from some registered medical school, or a diploma or license conferring full right to practice medicine in some foreign country. The degree of bachelor or doctor of medicine shall not be conferred in this State before the candidate has filed with the institution conferring it the certificate of the regents that before beginning the first annual medical course counted toward the degree unless matriculated conditionally as hereinafter specified, he had either graduated from a registered college or satisfactorily completed a full course in a registered academy or high school; or had a preliminary education considered and accepted by the regents as fully equivalent; or held a regents' medical student certificate, granted before this act took effect; or had passed regents' examination as hereinafter provided.

A medical school may matriculate conditionally a student deficient in not more than one years' academic work or twelve counts of the preliminary education requirement, provided the

name and deficiency of each student so matriculated be filed at the regents' office within three months after matriculation, and that the deficiency be made up before the student begins the second annual medical course counted toward the degree. Students who had matriculated in a New York medical school before June fifth, eighteen hundred and ninety, and students who had matriculated in a New York medical school before May thirteen, eighteen hundred and ninety-five, as having entered before June fifth, eighteen hundred and ninety on the prescribed three years study of medicine, shall be exempt from this preliminary education requirement.

A medical student certificate may be earned without notice to the regents of the conditional matriculation either before the student begins the second annual medical course counted toward the degree or two years before the date of the degree for matriculants in any registered medical school in the four cases following:

1. For matriculants prior to May ninth, eighteen hundred and ninety-three, for any twenty counts, allowing ten for the preliminaries, not including reading and writing;
2. For matriculants prior to May thirteen, eighteen hundred and ninety-five, for arithmetic, elementary English, geography, spelling, United States history, English composition and physics, or any fifty counts, allowing fourteen for the preliminaries;
3. For matriculants prior to January first, eighteen hundred and ninety-six, for any twelve academic counts;
4. For matriculants prior to January first, eighteen hundred and ninety-seven, for any twenty-four academic counts;

But all matriculants, after January first, eighteen hundred and ninety-seven, must secure forty-eight academic counts, or their full equivalent, before beginning the first annual medical course counted toward the degree, unless admitted conditionally, as hereinbefore specified when the deficiency must be made up before the student begins the second annual medical course counted toward the degree.

§ 2. This act shall take effect immediately, except that the increase in the required course of medical study from three to four years shall take effect January first, eighteen hundred and ninety-eight, and shall not apply to students who matriculated before that date and who received the degree of doctor of medicine before January first, nineteen hundred and two.

TREATMENT OF A COMMON COLD.

Dr. L. D. Bulkley, the well-known dermatologist, in the *Medical Record*, recommends the following treatment :

After many trials I have settled down to the following plan for an adult of medium size and weight: Twenty to thirty grains of bicarbonate of soda are given in two or three ounces of water, every half hour, for three doses, and a fourth dose at the expiration of an hour from the last one. Two to four hours are then allowed to elapse, to see the effect, and the four doses are repeated if there seems to be necessity, as is frequently the case. After waiting two to four hours more, the same course may be taken again, although this is not often necessary, if the treatment has been begun early in the course of the "cold." I have known the doses to be repeated four times, with final good result.

As intimated, the method of treatment under consideration relates more especially to the early stage of a "cold." To be promptly effective, it should be begun with the earliest indications of coryza and sneezing, and in my experience has rarely failed to break it up, even in those much inclined to the same. After the second or third day it acts less promptly, and more frequent repetitions are needed, but I have seen very good results even much later in the trouble.

When the influenza has more of the contagious character, now recognized as "grippe," it is less efficacious, but is still often of service. In these cases I have combined phenacetin, five to ten grains, with ten to twenty of soda, and given the powders, with hot water, every two hours continuously for a day or two. I have had a large number of very striking instances of the benefit of this plan of treatment, both in the past two years and during this fall and winter; in some cases the treatment has been begun several days after the commencement of the disease, and in one instance after it had lasted about four weeks. The latter case occurred quite recently, and the almost immediate relief to many distressing symptoms—headache, cough, malaise, etc.—was very striking. The patient was a remarkably intelligent gentleman, aged forty-five, who had been under varied treatment for the entire time.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.

NERVOUS AND MENTAL DISEASES. By Landon Carter Gray, A.M., M.D. Second Edition, 733 pages, 172 cuts and 13 plates. Cloth \$4.75, leather \$3.75. Lea Brothers.

The first edition of this treatise was favorably reviewed in the JOURNAL for August, 1893. When a new work appears it is natural to give it a kindly send-off. But when it takes on the importance of a re-issue, and especially in view of the large number of such claimants for the patronage of the American profession, it becomes a duty to consider its merits and blemishes without favor.

The size of the volume in question has not been essentially increased, yet shows considerable and laudable revision. Some of the points that it was necessary to mildly criticise before have been modified,—though it is still the exception to find a page without the pronoun “I.” And its occurrence so often makes quite a characteristic feature. Where it is found twenty-three times on a single page the query is natural whether there be room for much else. Casually it would make an excellent guide to patient worship.

A tendency to use smooth and indefinite language and to wander off into gratuitous commentaries is at times apparent. A little of this may serve the purposes of style, but much of it soon becomes wearisome.

The author's therapeutics, though catchy and happily explicit, do not always prove trustworthy on closer examination. Sound and rational methods have been too much sacrificed to an attempt at novelty.

His advocacy of the very gradual reduction of alcohol in alcoholic neuritis is particularly reprehensible. The plan may make a very popular but not a very successful physician. Alcohol is the poison that has brought on the condition, and, even in much reduced quantity, is capable of keeping it up. The greatest impediment to successful treatment is too often the difficulty in controlling this very matter. Part of his statement also is not clear—p. 206: “When the alcohol is entirely withdrawn, place the patient upon a malt liquor, either a heavy English or German beer; and after using this for some time, taper off with an alcoholic malt extract; (*i.e.*) a malt extract in which the diastase is combined with alcohol.”

By including mental diseases the work is very compendious all around; on this side his therapeutics may be praised more highly.

The illustrations, so far as they are copies, are most excellent, but the original ones do scant credit to the work.

Despite what has been said there is much about the work that is commendable. Dr. G. has evidently expended much labor on it. There is a certain roundness of diction that is pleasing; many dates of historical interest in neurology are conveniently given in the text; there is a useful 17-page glossary, a large amount of other valuable and on the whole most worthy information, and finally the fine printers' work of this firm. The book has many excellencies, is attractive, and with further revision at the skillful hands of its author must go on to other editions.

WILLIAM BROWNING.

PRINCIPLES OF SURGERY. By N. Senn, M.D., Ph.D., LL.D., Professor of Practice of Surgery and Clinical Surgery in Rush Medical College, Chicago, etc. Second edition. Thoroughly Revised. Illustrated with 178 wood engravings and five colored plates. Royal octavo, pp. xvi, 656. Extra cloth, \$4.50 net; sheep or half russia, \$5.50 net. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry street.

The first edition of the "Principles" appeared five years ago; since then important advances have been made in pathology, and the present edition brings the science of surgery well up to date.

PREGNANCY, LABOR, AND THE PUERPERAL STATE. By Egbert H. Grandin, M.D., Consulting Surgeon to the New York Maternity Hospital; Consulting Gynecologist to the French Hospital, New York, etc.; and George W. Jarman, M.D., Obstetric Surgeon to the New York Maternity Hospital; Gynecologist to the Cancer Hospital, New York, etc. Illustrated with forty-one original full-page photographic plates from nature. Royal octavo, pp. viii, 261. Cloth, \$2.50 net. Philadelphia: The F. A. Davis Co.

From the experience of the authors we should expect a practical book on these subjects, nor are we disappointed. Theories have no place in the treatment of the subjects discussed, but facts, and facts only, are made the basis for an exceedingly valuable contribution to medical literature. The plates are not needed to elucidate the text, for the views of the writers are sufficiently clear without them, but they are well selected and illustrative.

A MANUAL OF OPERATIVE SURGERY. By Lewis A. Stimson, B.A., M.D., Professor of Clinical Surgery in the University of the City of New York. New (3d) edition. In one royal 12mo volume of 594 pages, with 306 illustrations. Cloth, \$3.75. Philadelphia: Lea Brothers & Co., Publishers, 1895.

This, the third edition of Professor Stimson's "Operative Surgery," is a volume which recommends itself particularly to students and the younger practitioners of medicine, both from its completeness and compactness. It will, without doubt, receive a cordial welcome from the profession at large. It cannot, of course, take the place of the larger works and monographs upon special subjects, but in its 594 pages will be found most of the recent as well as the best operative procedures. Due credit is given to Dr. John Rogers, Jr., in the preparation of this edition, who has performed most of the labor incident to the undertaking. This must have been considerable, for the reason that it was found necessary, owing to the many important changes that have taken place in the art of surgery since the appearance of the second edition, to almost wholly rewrite the book. In company with the latter, it might be said that a new operative surgery had been written, inasmuch as a large number of operations found in the second edition have been left out of the third, their field of usefulness having passed away, and others being supplied by superior substitutes.



DR. JENNER.



H. W. RAND.

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ORIGINAL ARTICLES.

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RÖNTGEN'S CONTRIBUTION TO SURGICAL DIAGNOSIS.

ILLUSTRATED WITH FLUOROSCOPE, VACUUM TUBES, APPARATUS, AND
PLATES.

BY S. H. MONELL, M.D.,
Brooklyn, N. Y.

Fellow of the Academy of Medicine; Member of the New York Electrical Society, etc.

Read before the Kings County Medical Society, April 21, 1896.

I do not know how much some of you are interested in this matter, but it is deserving of the very greatest interest, either for us to ascertain its real value or to determine if it is being over-rated. It is also too large a subject to be condensed into a short paper. From scores of the ablest living scientists throughout the world came early declarations that Röntgen's discovery was entitled to a high place among the very greatest discoveries of this incredible century of marvels. Some have changed their views, some have shrunk them to smaller proportions, and some now reserve their judgment. It is possible to distort, misrepresent, and misapply the gift of Röntgen to mankind, but rightly consid-

ered, on its intrinsic merits and in its proper relation, its magnitude cannot be exaggerated, and its ultimate fruitfulness for good cannot at present even be surmised—if it is a true revelation, and if science has not been temporarily deluded.

Scientific and technical periodicals, during recent weeks, have all been practically “Röntgen Numbers,” just as we have seen special bicycle numbers issued of late by popular weeklies and magazines. Is the subject worthy of the notoriety it has achieved? That is a question for experience to determine.

It is obvious that the historical and descriptive survey which I present to-night of the subject which is attracting this world-wide attention can contain nothing original with me. I do not claim to have invented, discovered, originated, or first introduced any of the essential tubes, electric currents, rays, or apparatus connected with Professor Röntgen's discovery, nor do I expect to “improve very much on his work at an early date.” A large number of contributors to the literary bureau of the physical science have indeed appeared to be working overtime and under high pressure to establish their priority to all the anticipated discoveries of the next ten years, but I am not among them.

My purpose this evening is solely to reduce the subject to an intelligent understanding, and show you something of what has been done.

Röntgen's discovery like Daguerre's was accidental. Faraday in 1838 had studied discharges of electricity across a space containing rarefied air in a glass vessel. In 1869, Hittorf discovered what have since been called “cathode rays,” produced in a vacuum tube during the passage through it of an induction current. Professor Röntgen, long interested in the phenomena of cathode rays, proposed to supplement the latest researches of Hertz and Lenard by studies of his own. After long delays he began his special investigations in the latter part of October, 1895. It was on the 8th of November that his now celebrated discovery was made. While working with an induction current of high tension through a Crookes' tube, which fortunately possessed an extremely high vacuum and was covered by a black cardboard shield, there lay upon an adjacent bench in his laboratory a piece of barium-platino-cyanide paper. Across this paper a peculiar black line appeared. It could only be explained by the passage of light, and the shield covering the tube was impervious to any light known. He investigated, assuming that the influence must have come from the tube, since its effect indicated that it could

come from nowhere else. He tested it. In a few moments there was no doubt about it; rays were coming from the tube which had a luminescent effect upon the paper. He tried it successfully at greater and greater distances, even at two metres. It seemed at first a new kind of invisible light. He soon concluded that the rays were neither light nor electricity, and having discovered their existence and their source, set out to see what they would do. He found that they possessed peculiar properties, including a penetrative power unknown before, that they passed with ease through paper, wood, and cloth; that he could see shadows of objects through a book of a thousand pages; that he could photograph brass weights in a closed wooden box; coin in a leather purse; the dial of a compass through its case, and, since the rays had this great penetrative power, it seemed natural that they should penetrate flesh, and this he proved by interposing his own hand. His experiments and conclusions he presented in a concise report, which is destined to be enduringly historical, to the Physico-Medical Society of Würzburg, December, 1895. This report was so deliberate, exact, and scientific in character, that it left no room to doubt either the truth or the importance of the discovery. Owing to the enormous amount of confusing, sensational, and mistaken, as well as purely theoretical, writing, which has been done on this subject within the past three months, it is well to state at this point, as briefly as possible, exactly what Röntgen himself reported that he had discovered.

His entire report—a masterpiece of technical statement—should be read in full by every one who desires complete information. A synopsis of the points which concern us is as follows:

“When a discharge from a large induction coil is passed through a Hittorf's vacuum tube, or through a well-exhausted Crookes' or Lenard's tube, it is possible to see in a completely darkened room that paper covered with barium-platino-cyanide lights up with brilliant fluorescence when held towards the tube. Calcium sulphide, uranium glass, Iceland spar, rock salt, and other bodies also fluoresce, and the origin of this fluorescence is within the tube, as can be easily demonstrated.

“This influence penetrates objects opaque to ultra-violet light, sunlight, or arc light. Water and several other fluids, organic substances, such as paper, wood, and the tissues of the body, are extremely transparent to it, while metals, inorganic salts, etc., are much less so, but no body is completely opaque.

Density mainly effects the permeability of bodies. The rays have no calorific effects, and are invisible to the eye. They are not deflected by prisms, nor refracted, reflected, nor concentrated by lenses. Bodies behave toward the rays as turbid media to light. The intensity of the fluorescent light varies nearly as the inverse square of the distance between the screen and the discharge tube. The air absorbs these rays much less than it does cathode rays. The X-rays are not deviated by a magnet. The place of most brilliant phosphorescence of the wall of the discharge tube is the chief seat whence the rays originate and spread in all directions, *i.e.*, they proceed from the front where the cathode rays strike the glass, and if the latter are deviated by a magnet, the X-rays proceed from the new point where the cathode rays end.

Of special interest is the fact that photographic dry plates are sensitive to these new rays. It is thus possible to exhibit the phenomena so as to exclude the danger of error. I have thus confirmed many observations originally made by observations with the eye through the fluorescent screen. Here the power of the rays to pass through wood, or cardboard, becomes useful. The photographic plate can be exposed to their action without removing the protecting case, so that experiments need not be conducted in darkness. A regular shadow picture is produced by the interposition of a more or less permeable body between the source of the rays and a photographic plate, or fluorescing screen. I have observed and photographed many such shadow pictures. Thus I have an outline of part of a door covered with lead paint. I have also a shadow of the bones of the hand, of a wire wound upon a bobbin, of a set of weights in a box, of a compass card and needle, completely enclosed in a metal case; of a piece of metal where the X-rays show the want of homogeneity, and of other things."

The news of this report spread through Europe in about a week. On January 7, 1896, a brief cable dispatch of a 150 words from the London correspondent of the *New York Sun* first announced in this country that "Professor Röntgen, of Würzburg, had discovered a light, which, for the purposes of photography, would penetrate wood, flesh, and most other organic substances, and that he was already using his discovery to photograph broken limbs and bullets in human bodies." Instantly the scientific world was eagerly repeating, verifying, and striving to surpass the wonderful experiments of the Bavarian physi-

cist. No other dramatic discovery of this electric age has at once, and so completely, aroused an interest so universal and commanding. It was reported as "photography," and immediately the photographic world anticipated applications and sought the development of details which should transform the embryo of Röntgen's revelation into as instantaneous and brilliant a process as time has wrought from the discovery of Daguerre. In electrical circles still more active interest was displayed, for the rays were supposedly the product of an electric current, and inventors of incandescent light systems, multiphase dynamos, duplex telegraphy, the phonograph, kinoscope, and telephone, turned their labors to exploring the new field of wonder. But in the medical profession was at once felt the most direct and personal concern. On all sides it was recognized that something had happened which might be destined to enrich medicine and surgery with a more valuable and accurate diagnostic process than was ever hinted at or dreamed of by the great masters of palpation, auscultation, and percussion. Those who have not followed the literature of the subject in the electro-technical, photographic, and scientific press, cannot even imagine the enormous proportions it assumed. Within a month of the date of Röntgen's report, his name was in every such publication in Europe and America, and he had opened up the most extensive field in scientific speculation.

What are the Röntgen rays? Their as yet unknown nature has given rise to much theoretical discussion, and led the discoverer himself to term them provisionally, and, for the sake of brevity, as X-rays in his report. We should discard this term. A full consideration of the scientific theories, facts, and problems, already presented at length about these rays, would take us into very deep water, and would require several hundred citations, and two or three weeks' time. I propose, therefore, to limit my remarks on this portion of the subject to a brief space and proceed rapidly to methods, results, and such practical information as you most desire to know. Röntgen himself thus states his own hypothesis: "If one ask then what are these X-rays, since they are not cathode rays, one might suppose from their power, of exciting fluorescence and chemical action, that they are due to ultra-violet light. In opposition to this view, a weighty set of considerations presents itself." (Omitting these scientific considerations as not essential to us he goes on to say). "A kind of relationship between the new rays and light rays appears to ex-

ist, at least, the formation of shadows, fluorescence, and the production of chemical action, point in this direction. Now it has been known for a long time that besides the transverse vibrations, which account for the phenomena of light, it is possible that longitudinal vibrations should exist in the ether, and, according to the views of some physicists, must exist. Should not the new rays be ascribed to longitudinal waves in the ether?" In his Baltimore lectures of 1884, Lord Kelvin suggestively observed: "When we look through the little universe that we know and think of the transmission of electrical force, of magnetic force, and of light, we have no right to assume that there may not be something else that our philosophy does not dream of." Passing now over the more or less ingenious and diverse theories of Lodge, J. J., and Elihu Thomson, Professor Rowland, Tesla, Edison, Salvioni, and every other living scientist who has expressed an opinion, I will sum up in one concluding sentence what is known about the rays: They appear to be originated at the sight of the greatest electrical activity in the tube, and their real nature is as unknown as the nature of heat, gravity, electricity, mind, and of life itself.

Apart from the rays themselves the first practical feature for me to describe is the prison-cell in which they mysteriously originate. As I have said, Faraday, the greatest of experimental philosophers, studied the phenomena of electric discharge across a space within a glass vessel containing rarefied air. Geissler made such advances over his predecessors in the construction of apparatus for showing electric discharges through rarefied air that the name "Geissler tube" rapidly became familiar in scientific literature. Tubes of this variety are low vacuum tubes, being usually exhausted to about one-thousandth of an atmosphere. They contain one of the rarefied gases, oxygen, hydrogen, carbonic acid, etc., each exhibiting its peculiar characteristic light when traversed by an interrupted current of high potential. The beautiful and inexplicable luminosity and phenomena observed at the negative bulb of the tube centered the interest in the cathode. In 1879, William Crookes of London, a man of great experimental resources, advanced his theory of the fourth state of matter in explanation of these cathode rays, and devised new forms of apparatus of such extraordinary interest as to supersede in great measure the work of Geissler and others.

The Crookes' high vacuum tube or bulb is exhausted to about one-millionth of an atmosphere, more or less, and furnishes a

phenomenon of fluorescence instead of the banded light seen in the tubes of Geissler. It manifests another singularity: the electrical streams from the negative electrode in the bulb go out in straight lines to the opposite wall, regardless of the location of the positive electrode, which is usually placed at an indifferent side point. The vacuum in the Crookes' tube may also be raised by electrical means beyond the capacity of the air pump, and to so high a degree of rarefaction that no further disruptive discharge will pass through it, although it is claimed that a perfect vacuum is a good conductor of electricity. Owing to the great resistance between the metallic terminals in the tube, and the heavy currents employed by some to excite the Röntgen rays, intense heat may be developed in the process. The efficiency of the tube is thus impaired, and it may be rapidly destroyed unless certain precautions are constantly observed by the operator. When Röntgen's discovery was announced there were but few in this country. Most of those in the shops were unfitted for photographic experiments, and at once a working tube commanded an extravagant price. Few really good tubes were obtainable at all. They were all imported, and the sudden demand which arose and still exists created a temporary famine. They vary in shape and size. Some are spherical, some elliptical, some pear-shaped. The latter are preferred. The spheres are about five inches in diameter; the others (pear-shaped) should be about twelve inches in length and four inches in diameter at the larger end. Mr. Edison uses a smaller and peculiar shaped tube. I am also able to show you some American-made tubes which are now successfully manufactured here. It is probable that ere long there will be very little trouble in obtaining all the Crookes' tubes we may desire, and at greatly reduced prices. (Prices have been from \$7 to \$15.)

Every tube has a maximum point of efficiency. It may be over-excited, or overheated, or too cool, or the vacuum may be too high, or too low. It may also be too large, or too small, or its electrodes may fail in shape, size, and material in producing the best effects. Effects will also vary with the thinness of the wall, and distance from the tube to the sensitive plate. Constancy of action is difficult to maintain, and fine plates, with short exposures, can only be obtained by keeping the tube at its maximum of efficiency. Curiously enough, the best temperature for the tube, so far as I have been able to judge in experiments, seems to be about that of the active circulation of the blood, or

from 100 to 102 F. Observing this while working one afternoon with Dr. Pupin, in the electrical laboratory of Columbia College, I suggested an arrangement for blowing cool streams of air upon the two points of greatest heat in the tube, and by carefully manipulating this method we were able to work the tube continuously for hours. Whereas, it had previously been necessary to reduce a heavy current, or stop it entirely every seven or ten minutes to rest the tube, thus making it impossible to penetrate the thick tissues of the body, we were able at once, with forty minutes exposure, to make a magnificent plate of the entire leg, and successfully photograph the ribs and spinal column through the chest and abdominal wall.

The second essential feature to discuss is the exciting cause of these newly discovered wonders, to-wit: the electrical apparatus; and in passing, I venture to ask you to recall for the moment that another great scientific discovery—Davy's decomposition of the fixed alkalis in 1807—owed also its birth to electricity. When we think of all that electricity has done and is doing for the world, its marvels of useful activity—compared with which the slaves of the lamp and ring, and all the magicians of the Arabian nights were mere cripples and paralytics—it seems reasonable to believe that the medical profession cannot much longer withhold its just recognition of the rightful place in therapeutics which this agent has won, and which it undeniably deserves. Possibly Röntgen's discovery may help to bring this about.

Currents from a high tension source are requisite. Ordinary Faradic batteries are useless. They will not even glow the tube. A powerful static machine, with Leyden jars and transformer coils, will do fairly good work, but far from the best for the amperage is not sufficient. Many, including Röntgen himself, have used only the Ruhmkorff coil, but the best results cannot be obtained with short exposures by direct connection from chemical cells to an ordinary Ruhmkorff coil, even of large size. A spring vibrator is the least satisfactory means to interrupt the current. Mr. Swinton, a skilled London operator, who has secured excellent negatives with exposure time reduced one-half, has excited his tubes from the secondary circuit of a Tesla oil coil, through the primary of which was continually discharged twelve half gallon Leyden jars charged by an alternating current of about twenty thousand volts pressure, produced by a transformer with a spark gap across its high potential terminals. But, as one writer says, in the modest and plainly equipped laboratory in the

Pleicher Ring, at Würzburg, from whence came this new great impetus to scientific research, there were no Tesla coils, and no costly and elaborate electrical apparatus. There was only the simple Ruhmkorff coil, the Crookes' tube, and Röntgen himself! "It is the genius of man rather than the perfection of appliances that breaks new ground in the great territory of the unknown."

Owing to the interest felt in the matter by hospitals and physicians, and the fact that many are already inquiring whether they can employ their own medical batteries for these photographic effects, it should be stated that they cannot. Even investigators, who command fairly well-equipped physical laboratories, find their resources less than they would like. Those of you who were present at the Adelphi Academy, on February 19th, when Professor Peckham kindly attempted to demonstrate for us the manner in which pictures were taken, must have realized how absolutely inadequate, for this purpose, his entire apparatus was. I will now describe what is apparently the most satisfactory electrical outfit as it is employed in the laboratories of the three men who have been foremost in experimental work in this neighborhood. I refer to Mr. Edison, Mr. Tesla, and Professor Pupin. Each of them has slightly different ideas in respect to minor details of the apparatus, so I will group them all and state what my own observation led me to prefer. The direct 110-volt incandescent light street current is employed, controlled by a rheostat or cut into the circuit through lamps arranged in multiple arc, each adding a half ampere of current. A rotary break-wheel, giving a frequency of one hundred per second, is the proper interrupter. A condenser should not be used to prevent arcing. It delays the discharges in the coil and impairs the effect upon the vacuum tube. The better device is a jet of air forced through a small Root blower directly across the edge of the brush. This was suggested by Professor Elihu Thomson, and is both ingenious and satisfactory. The current thus obtained supplies the primary of any first-class induction coil, the secondary of which will give a four or six-inch spark. From the terminals of the secondary coil the now high potential current is conveyed by wires to the Crookes' tube.

Considerable room is required, as it is well to place the main apparatus at some distance from the tube. In the Edison laboratory it was shown me in a separate room. In hospitals the electrical plant could be placed in the basement, or in the regular engine-room, and connected by wires and switches with every ward,

so that the tube could be operated in any part of the building. The cost of such an outfit will of course vary according to circumstances, but will probably range from about \$250 to \$400 complete. To buy cheap apparatus would be simply wasting money.

The diagram shown upon the blackboard is copied from originals drawn for me by Mr. Edison for the express purpose of presenting to you to-night.

It is the "hospital outfit," which he proposes to suggest, though he will have no connection whatever with the manufacture or sale of such an apparatus. The mercury pump is the best and only means he has yet found to keep the tube constant. It is to be on castors to wheel about the ward. It is an interesting and ingenious combination of devices, but I hardly think it will be adopted. Everything really depends upon the tube, and I think the tube question will find some other solution than a perambulating, expensive, and fragile exhaust pump.

One of the results of the acute interest everywhere manifested in the new photography has been to create a scarcity of large induction coils, as well as of Crookes' tubes. Makers who but lately were on the point of closing up that branch of their business on account of the long-continued lack of customers, are now three months behind on orders. For hospitals, laboratories, educational institutions, amateur and professional scientists, it is estimated that at least five hundred coils are now being made. Wherever one was known to exist for sale it immediately commanded a premium.

I shall next speak of the fluoroscope about which you have read such wonderful things in the daily papers. It will be necessary to eliminate from our minds some of the popular representations of policemen peering through sidedoors, burglars inspecting the contents of safes, and at least one picture of Mr. Edison, in his shirt sleeves, contemplating the entire physiology and anatomy of the reporter of a New York journal, on March 20th. The fluoroscope has not yet caught up to the comic press, story writers, and poets. The first instrument designed for visual observations was a simple brass tube blackened on the inside, to one end of which was secured by non-actinic black photographic paper a circular disc of paper prepared with the double cyanide of platinum and barium. The opposite end of the tube was fitted to the eye so that light was excluded and directed toward the excited vacuum tube, so that the acting rays fell upon the fluores-

cing screen, which then glowed and revealed the shadows of objects between it and the Crookes' tube. Salvioni called something like this a cryptoscope, and Magiè, a skiascope. Dr. Emmen has given us the photoscope, and Mr. Edison, the fluoroscope, which I show you, the screen of which is tungstate of calcium crystals. You have all read how rapidly different inventors were inventing these things, and, strange to say, they were all so magnanimous that none of them would patent their particular 'scope. Of course not, for Professor Röntgen employed essentially the same thing in his own experiments before he announced his great discovery, and as you noted, when I read the story, it was in fact a fluorescent screen which led him to detect the rays. Mr. Edison claims to have tested over eighteen hundred salts, and found seventy-two that fluoresce. Of these, tungstate of calcium is the most brilliant. Mr. Aylsworth of Orange, the chemist, who has provided the material for Mr. Edison, informed me that there was at first none of this salt in this country and his first attempts to produce satisfactory crystals were made with considerable difficulty. At this date, after making between one and two hundred of these fluoroscopes, which, by the way, are sold for from \$5 to \$20 each, according to size, a very marked improvement is to be noted over those first produced. I need not describe the instrument, for you see just what it is. I am, however, obliged to state, and I do so with great regret, that it is of very little present value to the surgeon. The reporter has said, "By means of it, in conjunction with a Crookes' tube, the whole interior economy of the human body may be made visible to the eye." Unfortunately there is no truth whatever in this statement. The instrument is magnificent for the scientist. It makes him certain in investigations, where, without it, his results would be guesswork; and it is a practical necessity in the hands of every operator while watching and regulating his Crookes' tube. Its value and its function resembles that of the milliamperemeter in a galvanic circuit. It is a control test, and shows you what the tube is doing. You cannot see the rays through it; practically speaking, you cannot see anything through it in the sense that you see through glass. You only see it glow with pellucid light. While you can indeed observe the outline of the bones of the hand when it is laid upon the screen and a strong fluorescence obtained, yet it by no means supplies the definition of the photographic plate. The latter to-day affords the only valuable aid to surgical diagnosis. It is greatly to be

hoped that the screen will be improved, but as yet it is inferior to the negative. The fluoroscope of to-day is probably the primary step in the evolution of a device which will be of untold value in the future clinician's hands.

There is one modification I must already make to the above: The limitations of the fluoroscope may be greatly reduced as higher efficiencies are secured in tubes.

A few days after writing what I have read you about this instrument I was able to test one, with a tube of unexpected power, and could see plainly that the fluoroscope did much better work. It may be possible, therefore, that under conditions which may be fulfilled shortly, a brilliant tube and fluoroscope may really serve the surgeon for examinations at least of the arms and lower extremities. At present it is impossible to inspect a fluoroscope with a tube of only ordinary efficiency without being disappointed in it.

You will observe that in inspecting through it objects that are transparent to the Röntgen rays they do not present any color phenomena corresponding to the coloration given by common light. This is a decided drawback.

What I have told you about the Edison fluoroscope has been my own observations, written on April 8th. On April 10th I came upon a letter from Mr. Tesla, in which he so strongly confirms my own opinion that I must quote you a few sentences from his remarks. He says: "It is really Salvioni's Cryptoscope, with the lens omitted, which is a great disadvantage. Improving the fluorescence will not aid us very much in the examination of the internal parts of the body. The solution will come rather through the production of very powerful radiations capable of producing very strong shadows. Although it is a remarkable appliance I have convinced myself of its still limited value for examinations. It is not as clear as the photograph. Eventually, however, with the help of strong radiations and good reflectors, such screens may become valuable instruments for surgical investigations."

This is an appropriate place for me to state that when the process of this photography is developed to the highest point of present practical success, it is probable that only trained experts will be able to do the work which surgeons may require for diagnostic purposes. As Professor Pupin expressively remarked to me the other day: "A longshoreman cannot handle a Crookes' tube." So far as a physician's ordinary experience is concerned,

there is nothing in the practice of medicine which would fit him to manage the complicated technique. There is nothing to indicate (and I speak from personal observation of some of the best work so far done) that at some future time each surgeon will be his own photographer with Röntgen rays. Medical experimenters, with static machines and the requisite accessories and knowledge, will, as now, be able to take pictures of interest, and perhaps, of some practical value, but so many branches of skilled experience are involved in producing negatives which would be of practical surgical assistance, that such work will probable be limited to large institutions. It is quite possible that within a year every hospital in the United States, which is able to afford it, will establish a Röntgen photographic plant. The Jerome Kidder Mfg. Co. of New York, inform me that they are already in receipt of a number of inquiries in this direction, and it is chiefly through their courtesy, together with the Galvano-Faradic Mfg. Co., that I am able to illustrate the essential apparatus to-night and permit you to inspect "your own bones" through the fluoroscope, which has been aptly called "Röntgen's spectacles."

Methods.—I now come to the method of taking a photographic negative. Plates equally sensitive to ordinary daylight exhibit wide differences of action to the new rays. Bromide of silver gelatine emulsion plates are said to be the best. No camera is employed. The photographic plate is secured in an ordinary plate-holder and completely enclosed from the light in a cardboard envelope. The sensitized surface is turned toward the object to be taken. It is then placed in any convenient situation so that the object may rest directly against the cardboard covering the plate. The vacuum tube is set up so that the line of the rays is perpendicular to the plate with the area of greatest efficiency at the distance best suited to the power of the tube, generally between one and three feet. The current is started into action and the exposure time will vary according to the energy of the tube, the preparation of the plate and the thickness and density of the tissues to be penetrated by the rays. With good apparatus a few minutes suffices for the hand. The entire leg, arm, and even the trunk of the body have been impressed upon negatives in less than an hour. This refers to such pictures, as you have all seen, which exhibit the bones entire. A shorter exposure would leave a more definite impression of the flesh, and with a longer exposure, the thickest bones in the body could be caused to

gradually disappear so that no matter how deeply a bullet might be imbedded, it could not escape discovery. The first pictures produced in the Röntgen manner were assumed to be mere shadow silhouettes and not true photographic images. They were therefore called shadowgraphs, skotographs, skiagraphs, radiographs, and a half dozen other fantastical and unnecessary names, all of which I shall discard, and call them simply photographs, which they are. It is seventy years since the French experiments were made which led to the daguerreotype, between which and the electrical photography of the kinoscope, have lived nearly three generations of inventive genius. It is now but little more than a hundred days since electricity and photography were joined anew by the accidental discovery of Röntgen, and in some respects the present Röntgen picture resembles the original daguerreotype. It is somewhat crude, it is defective in definition, its lights and shadows sometimes give little clue to what an object really is, but the inventor of to-day begins the improvement of the process under circumstances so favorable to rapid development that we are assured of satisfactory results already, if we do not expect too much.

It is found that the effect on the sensitized plate is greatly intensified, and the exposure time reduced from hours to minutes and even seconds (for small objects) by closely applying over the plate a sheet of fluorescing paper. (Prof. Pupin.)

Tungstate of calcium in crystals, finely ground, serves decidedly better than barium-platino-cyanide and is entirely replacing the latter. The powder is dusted on suitable cardboard first coated with fish-glue. Other ways to increase the definition of shadows are constantly sought. For this purpose, while others adhere to a single tube, Mr. Tesla has recently (April 6th) constructed a funnel-shaped zinc reflector, two feet high with an opening of five inches on the bottom and twenty-three inches at the top. This doubled the efficiency of one tube, and it allows the use of several tubes without sacrifice of precision and clearness. All technique is as yet experimental and no one can foretell how the perfect method is to develop.

Salvioni makes the point that an indispensable condition to securing clear shadows of any object is that the light projected over it should come from a luminous point instead of a large surface. This holds good for X-rays, whether they are light or radiant matter; but in the usual Crookes' tube the effective part is the largest. Probably glass-blowers will soon produce a shape that

will suit the photographic purpose much better than those made for other uses.

Clinical.—The first announcement of Röntgen's work was made in this country without explicit details of technique or results. Its significance was first and most quickly grasped by the greater electricians, notably by Thomas A. Edison, who as early as January 11th expressed the opinion that it was destined to be the discovery of the century. On the same date Professor Henry Morton, president of the Stevens Institute, declared the utmost skepticism, and said he could not conceive of a light that would penetrate a wooden box or a stone. He did not think it possible, but said, if it was true it would revolutionize science, in a measure, and there would be no limit to what could be accomplished. Editors of our leading medical journals generally showed a most complete lack of comprehension of the true nature of the discovery, and viewed the matter with ultra-conservatism. Even as late as February 1st, my friend Dr. Shrady observed, in the *Medical Record*, that "he did not see that the new photography could be very largely applied in surgery, since it could not detect the presence of bullets in the brain; and it would evidently be a very confusing and difficult task to photograph a bullet in the thoracic or abdominal cavity, where the bony surroundings would cut off the larger part of the rays of light."

The *Medical Journal* of March 14th also contains a letter stating that when some beautiful and well-defined Röntgen pictures of the bones of the hand were shown the editor (Dr. Foster) he remarked that, "while in themselves they were objects of interest from a purely physical or artistic point of view, they really had no specific medical interest." As a rule the skepticism with which the subject was at first viewed was greatest in those who had no experience with electricity.

As a matter of historical record I will read to you the way it flashed upon an electro-therapeutically trained mind five days before even the Edison interview was published. As events are rapidly justifying the remarks I now read, I will say that they were written by me for my own journal on January 7th, within one hour of my observing the original cablegram that brought the first news to this country :

"If these rays of radiant energy render the skin transparent for photographic purposes—as is claimed—the possible utility of such a method of diagnosis depends only upon the definiteness of the process. If this triumph of science can make visible to our eye the vascular system, the contents and

state of the stomach and intestinal tract; determine not only the location of a bullet embedded in bone, but the presence of tumors; outline the internal organs; detect pulmonary and cardiac lesions; decide between dislocation and fracture; in fact disclose to a visual examination every distinct pathological entity and leave little more to guesswork than functional derangements, then the whole art of diagnosis will be revolutionized. The mere declaration that it is in a fair way to be accomplished is one of the most astounding sensations of modern science.

The celebrated case of St. Martin, whose fistulous opening into the stomach gave us our first definite knowledge of the most important of the physiological properties of the gastric juice, is totally dwarfed by the suggestions which spring to mind while reading reports of Professor Röntgen's work.

Such a process would make it possible for us not only to see a pyloric cancer or a cerebral clot, but to watch the action of electric currents within the tissues; to study the effects of drugs; and make physiological research an exact science. This would place clinical medicine and electrotherapeutics upon equally firm ground."

The negatives reported in this country with the Röntgen process have presented as wide variations as the means by which they were secured. Among the thousands of hasty experiments early performed in college laboratories, many were demonstrated with feeble apparatus and possessed no clinical value. Again, other workers followed in the lead of men who had advanced far beyond the rear-guard while yet the latter were filling page after page of prominent journals with reports of their alleged original improvements. For the purpose of another article I have collected a large number of published references to photographs of surgical interest, but as time presses it will be well, perhaps, to omit most of them, and after citing a few of those which are of historical distinction I will pass on to describe my own observations in the laboratories of Mr. Edison, Mr. Tesla, and Columbia College.

Spies, of Berlin, was the first, after Röntgen, to make a picture of a man's hand in which something had caused pain for years. The negative disclosed a small piece of glass which was immediately extracted. A photograph of his wife's hand, showing the bones, articulations, a ring on the third finger, with faint outlines of the flesh, also early taken by Spies, has been widely exhibited as one of the best delineations of anatomy yet secured.

In Berlin not only were new bone fractures immediately photographed, but united fractures were pictured through their dressings and splints to verify the results of surgical work.

In London a wounded sailor, completely paralyzed, and whose injury was a mystery, was subjected to the same process

of examination, and an object was shown to be imbedded in his spine, which proved upon extraction to be a small knife-blade. Neusser in Vienna photographed gall-stones in one patient and a calculus in the bladder of another patient, and announced with confidence that it would soon be possible to photograph all the organs of the human body.

Reports of pictures of injuries for medico-legal purposes ; of verdicts already based upon the evidence of a negative to the exclusion of expert testimony ; of operations for malformations clearly revealed by the new art, have already come to us in great numbers. After the first of March they became too numerous to be mentioned here. Operators rapidly improved in technique and the latest work done was usually a great advance upon their earlier experiments.

Those of you, however, who have only seen the printed proofs of pictures, or the half-tone reproductions in the medical journals, are but poorly prepared to form a judgment in regard to the aid such methods will give to diagnosis. All prints from negatives are unsatisfactory. It is the negative alone which presents the shadings with greatest delicacy and evenness, and the outlines most distinctly. Nothing but the negative, after being properly developed, is suited for the surgeon's examination at present.

I will now refer briefly to some of Mr. Tesla's remarkable work, regretting only that lack of time must prevent a just consideration of his achievements.

The pictures I have mentioned and most of those of which you have read were obtained with small currents, small bulbs, short distances, thin objects, and long exposures. Where others had at first worked at distances of a few inches, Tesla, with a powerful disruptive discharge coil and single electrode bulbs, exhausted by his own process to the highest effective degree, easily photographed an object through a plank at a distance of eleven feet from the tube in his first experiment, and shortly afterward produced strong shadows at distances of forty feet and more. His work excels in fine details, in the brief time of exposures, and in the important discovery that he can partially reflect the rays and intensify their products. In his pictures of the bony structures of birds and small animals even the cavities of the bones are clearly visible. In a negative of a rabbit not only every detail of the skeleton appears, but likewise a defined outline of the abdominal cavity, and the location of the lungs, the fur and other interesting features.

Fourteen excellent plates, made by Magié of Princeton prior to April 3d, were among the most satisfactory results seen by the writer. They exhibit a variety of surgical cases and afford suggestive evidence of the value of the process.

On April 3d and 4th Professor M. I. Pupin of Columbia College, succeeded, as I have said, in obtaining clear negatives of the entire body, in sections, except the pelvic region, the print of the latter having been accidentally ruined by pressure. In taking the trunk a large sensitized plate, 18x22, was bandaged upon an assistant's back, and he was seated in a chair facing the Crookes' tube, and, of course completely clothed. Exposure time was one hour and ten minutes, which proved to be too much for some of the smaller structures, but just right to show that no bullet could be hidden in any recess of the trunk, or lodged in any depths of the spine, where the rays would not search it out as plainly as a shot in the hand. This was what Dr. Shrady feared could not be done, in his editorial of February 1st. I will only take time to describe one other interesting case, which I assisted in photographing. A man was sent from Bellevue Hospital to the laboratory with a chronic injury of the knee, exhibiting an enlargement. He had a history of various kinds of treatment and two minor operations without relief. A sensitized plate twenty-two inches long was laid upon a table. The man reclined on the table with his leg stretched across the plate and resting on it, so as to show the knee-joint from side to side. Exposure was fifty-two minutes. We next placed him upon another plate, over which both limbs were rested in parallel, and from back to front, so that the normal and enlarged joints could be compared. These two negatives were splendid successes. They were made with a single pear-shaped tube 12 x 4 inches in size, placed two and a half feet above the subject. It was evident that the bone was in good condition and that the enlargement was in the soft parts, and it seemed that the indications for treatment were non-surgical, and, in my judgment, proper electrolysis would give him relief from his painful and crippled state.

I recall a case in private practice of a compound fracture of the lower third of the femur involving an injury of the knee-joint. The consulting surgeon (one of the best in New York) was never able to satisfy himself whether the patella was broken or not. After an abrasion of the skin over the patella was healed a puffy area was discovered which seemed to have fluid behind it. The consultant, however, thought it was a hernial protrusion of some

of the soft parts of the joint, and did not aspirate or do anything with it but let it alone. One night when the man was in great pain and watched only by his sister, she had the "goodness of heart" to take off the extension weights to ease his leg! and we could not afterwards be certain that the apposition of the fractured parts was correct. With this Röntgen ray, all we puzzled over and were in doubt about could have been made clear. A negative could have been slipped in the bed under the suspended limb, and through bandages, etc. (which obstruct the rays no more than a mosquito net obstructs sunlight), we could have seen whether the segments of the femur had slipped, prevented shortening, and been sure about the patella. When the patient got up, his leg was two inches shorter than the other and the knee-joint was completely ankylosed. Here again we could have seen whether this was fibrous or whether (as the surgeon thought) the patella had grown fast to the other bones, and all had formed a solid bony mass. The satisfaction of a clear insight into the exact condition in this case would have been very great; and I have seen enough of Röntgen photography to be convinced that it would have solved both diagnosis and treatment.

What then are the actual facts to be observed in Röntgen pictures? By these negatives, the best of them, I mean, we can detect presence, shape, outline and approximate size of bodies the eye cannot see, through the living tissues. We can locate anything of a bony or metallic nature, but we can only outline muscle masses and soft parts. We cannot determine constituents, color, substance, structure, or condition. While we may outline the thoracic cavity or gastric wall, we cannot yet observe whether the lungs or the mucous lining of the stomach are normal or inflamed. A pus cavity may prove to be more opaque to the rays than healthy tissue, as pus is a bad conductor of electricity. So also may be a cirrhotic liver, a malignant tumor, or a gravid uterus. Certainly the difference between fibrous and bony ankylosis, fracture, and dislocation, will be shown. But while the present is the rudimentary stage of development, so sturdy an infant must witness a most brilliant maturity; and no one who has seen a really fine negative and compares it with what could have been accomplished in the same field last year, or views it through the remembrance of the early history of sunlight photography can reasonably doubt that in due time we shall observe with the eye even the circulation of the blood.

If you ask me to predict what the ultimate service of this method to medicine will be, let me recall to your minds the photographic picture taken by Thomas Wedgwood, in 1802. It was simply a dark shadow of a silhouette placed upon nitrate of silver paper and exposed to direct sunlight. Niepce required an exposure of hours to produce his pictures by reflected light from 1814 to 1826. When Daguerre died, in 1851, would he have believed a prophecy of the 1895 kinetoscope? In the history of the beginnings of our greatest modern triumphs—the steamship, the railroad, the printing-press, the telegraph, the telephone, or the twenty-five story office building—we may certainly find ample ground for confidence in our inventors. They have conquered mechanical difficulties on many hard fought fields, and I am inclined to think they will not fail us now. That the eye of the physician or surgeon, hitherto hopelessly baffled and vainly attempting to diagnose by touch and ear the dark mysteries of disease hidden beyond the skin, will eventually be illuminated by rays that shall turn the interior darkness into transparent light, is, we may hopefully believe, the promise of the future. The first successful modification of the action of the rays so that varying densities of tissues lend themselves to the processes of the new art will bring all morbid growths, all vital organs, all injuries, all deformities, all foreign bodies, even the vermiform appendix, within the visual and photographic field. How much this will mean to medical and surgical practice will depend upon the definiteness secured. How nearly this will enable us at first to also study the effects of drugs, to prosecute exact physiological researches, to watch the action of electric currents within the tissues, to observe digestion more fully than was ever possible through St. Martin's celebrated gastric fistula, it is too early to attempt to say. But a new door has been opened wide where none before was known to exist, and through it we may pass into a happier era, when uncertainty and empiricism shall give place to knowledge and definite therapeutics, and medicine shall take its rightful stand among the sciences that are exact.

For the present, however, we must pause. No further advance is probable without improved methods. For them we must look to the physicist and the photographic expert. When chemists have sensitized more delicate and peculiar plates, and have perfected the art of developing the images upon the negative, and when physicists have discovered means of controlling

the rays and rendering them obedient to the laws of light, we may finally expect to surmount the difficulties of photographing the secrets of pathology.

865 Union street.

A CASE OF ECTOPIC GESTATION.

REPORTED BY WALTER B. CHASE, M.D.

Mrs. D., of French parentage, aged 35, the mother of nine children, became pregnant, as her subsequent history showed, during the month of June last.

I saw her during the later part of July, at which time she was under the care of Dr. C. D. Beasley, having previously been treated by some other practitioner. She could not give a very definite account of her case, but the history showed, so far as could be elicited, that she had several days previously severe pelvic pain, which had been followed by a degree of pelvic inflammation. She was then convalescing. There was some pain and tenderness in right iliac fossa, with an enlargement to the right of the uterus, about half the size of a hen's egg. I advised her to enter some hospital, and by Dr. Beasley she was sent to St. Mary's, and there examined, with what results it is not known, and directed to report for subsequent examination, which she did not do. I examined her at my office during October. She had suffered less; had had occasional gushes of blood, of dark color, from vagina; her abdomen was enlarged, and she said she felt motion. The cervix had the characteristics of the pregnant state and was pushed up under the pubes by the mass in the abdomen, and was a little to left of median line. The tumor reached to the umbilicus; was to the right of median line; was evidently extra-uterine, ovoid in form, and about the dimensions of a uterus three months pregnant; but lacked, on pressure, the resistance of uterine structure. My diagnosis was that of ectopic pregnancy, probably within the right broad ligament—possibly abdominal. I explained to her the danger of the situation, and advised her to enter my service at the Bushwick Hospital for operation. She was so entirely unconcerned that she paid no attention to my suggestion and Dr. Beasley's earnest advice. A month subsequent to this, about November 1st, she was taken violently ill one afternoon at 4 o'clock. Dr. Beasley was sent for at 7.30,

reaching there in less than thirty minutes. She was then moribund and expired within fifteen minutes.

An autopsy was secured, but with proviso that it should be carried no further than necessary to reveal the cause of death. I was not present, but Dr. Beasley tells me he found the pelvic cavity filled with fluid blood: a tear in the posterior aspect of the right broad ligament, not over half-inch long, marked the source of the intra-peritoneal hemorrhage and communicated with the fruit sac, it being sub-peritoneal and intra-ligamentous. The fetus was apparently five months old, being rather transversely situated, the buttocks looking toward right ilium. The placenta was underneath the fetus.

Doubtless this was primarily tubal, and by primary extra-peritoneal rupture escaped within the broad ligament by such a process that its vitality was not impaired, and that the fatal ending was by secondary intra-peritoneal rupture and consequent hemorrhage.

Had this patient consented to operation any time during the last month of her existence, doubtless her life would have been saved, and had she simply entered the hospital, where she could have been under constant watch and promptly operated when rupture took place, her chance for recovery would have been excellent. Doubtless the rupture, when it occurred, was hastened by some hilarious and rather violent exercise indulged in just before the secondary rupture.

DISCUSSION.

Dr. W. J. Corcoran: I want to add the little bit I know about this case. I remember the patient coming to St. Mary's with a note from Dr. Beasley, saying he thought the case was one of ectopic gestation. She was examined with all her clothes on, and asked to come into the hospital. That was the last we heard of her until Dr. Chase announced the condition. No diagnosis was made at that time.

Dr. L. G. Baldwin: This is certainly a very interesting case and goes to emphasize two points in regard to ectopic gestation. The first is that as soon as a diagnosis can be made of ectopic gestation, wherever it is, operation is demanded. The second is that many cases of primary rupture occur, even if the peritoneum is involved, without the symptoms of shock and depression, which the books tell us should be present. These points are well emphasized by Dr. Chase's case.

Dr. Mac Evitt: I simply wish to relate a case of ectopic gestation occurring in my private practice. I saw a Swedish woman, six or eight weeks ago, who gave a history of ectopic gestation, amenorrhea existing for two periods, followed by a discharge at the expiration of the third, containing decidual shreds. An examination revealed a round, hardened mass in the right pelvic cavity. I kept her under observation, and on the recurrence of the symptoms peculiar to approaching rupture, I suggested, owing to her poverty, the advisability of entering a hospital, to which she consented; but rupture took place before the arrangements were completed. I saw her within a short time after being sent for, and did not consider the evidence of shock or hemorrhage sufficient to justify an immediate operation under the unpropitious surroundings, and so waited until the following day. The patient expressed a preference for the Swedish hospital. I called up the house surgeon, notified him of my diagnosis, and requested to be present at the operation. Celiotomy was performed on the day following her admission by Dr. Delatour, who found a rupture of a secondary sac, but with but little blood in the peritoneal cavity. The fetus, placenta, and sac were removed with but little difficulty. The patient made a good recovery. I believe many cases of ruptured ectopic gestation recover without surgical interference, the small fetus becoming encapsulated or absorbed. The danger lies in after-absorption, and where the peritoneal cavity remains intact this is not, in my opinion, great. In this case, after the evidence of shock passed away, the woman was in a good condition, and better on the third day following the rupture than at any other after its occurrence.

Dr. Jewett: I have a specimen of possible interest, Mr. President, in connection with the subject of the last two cases. It is a decidual cast of ectopic gestation. The patient is a woman between thirty and forty, a multipara, and was in perfect health until last Sunday. The history was, that on Sunday afternoon, after eating an indigestible dinner, she was seized with violent colicky pains and went into collapse. I saw her on Monday evening. She had recovered somewhat from the pains, under $\frac{1}{4}$ grain doses of morphia a few times repeated, and had had a second attack in the afternoon of Monday. When I saw her she was in partial collapse, but the signs of much internal hemorrhage were not present. There was no irregular respiration, and the pulse was only 74. There was, however, considerable tympanites and great tenderness over the lower abdomen. The

pain was referred to the region of the stomach, but was aggravated by manipulation over the lower portion of the abdomen. Examination internally showed the uterus enlarged to the size of six or eight weeks' gestation, with the cervix slightly open. No tumor could be made out. There was evidently peritonitis, and the presumptive diagnosis was a ruptured tubal pregnancy. Operation was declined for the time, and as the woman's condition subsequently improved from day to day, it was not again considered. The specimen presented was passed the following night. If the pathologist finds it a true decidua cast, as it appears to be, it confirms the diagnosis of ectopic pregnancy.

It occurs to me that where an incision is required for diagnosis, in these cases, the vaginal incision should be preferred; or an exploratory puncture by the same route with a coarse aspirating needle could be made safe. Passed an inch and a half above the lower border of the cervix, the cervix meanwhile being held well forward toward the pubic bones with a volsella, the peritoneal pouch could be aspirated without risk, if nothing had been found on careful bimanual examination to contra-indicate the puncture. A small opening at the same point with scissors or scalpel would be better. Should a tubal fruit sac be found that cannot be satisfactorily removed by the lower route, no harm will have been done. The vaginal opening can be left for drainage, if required.

The interesting point about the case was the very moderate pulse of the woman after she had, in all probability, suffered some intra-peritoneal hemorrhage. We know that in a certain proportion of instances the hemorrhage is arrested and recovery takes place spontaneously. The recovery, however, may not be complete, and, in any event, it is taking a great risk to leave the case to nature.

♦♦♦

LEWIS D. MASON, M.D.

Dr. L. D. Mason has resigned his position as consulting physician to the Inebriates' Home, at Fort Hamilton, having been connected with the institution since its foundation in 1866, a continuous service of nearly thirty years.

A NEW PERINEAL NEEDLE.

BY R. L. DICKINSON, M.D.

Any man who devises a more complicated instrument to take the place of a simpler one, is doing an ill turn to surgery. After using my perineal needle for eight or nine years, I have made an emendation, which seems to me of value, and I deem it worth while to describe my needle in print. It is simply a Hagedorn needle fixed to a Peaslee shank, to be used with a carrying thread, like a Peaslee needle. In obstetric work, when shoving a needle through the edematous, lacerated, and bleeding tissues found in the primary operation, it is often a matter of no little difficulty to find the point of an ordinary needle and draw it out, for we have considerable tissue to seize in the deeper lacerations. I speak particularly of such injuries as complete laceration of the perineum—these not uncommonly reach to the ischial spine or the base of the broad ligament—and of the cases we so often meet with in tenement houses, with poor assistance, miserable light, and the flow of blood, and in which we have to work largely by the sense of touch. In such cases, operating almost unaided, any device which will simplify the thorough repair of the pelvic floor injury is certainly of use. This has served me well in many such cases, and in some instances I have been compelled to suture from the cervix all the way down the lateral vaginal wall.

The original instrument, which I was using for a good while, had a right-angled turn; but I have lately put in a curve at the junction of shank and needle proper, which is of advantage. The Hagedorn curve should not be too great. The mistake in almost all these instruments has been that the curve in the Hagedorn needle has been too great, making it difficult to push the cutting-edge through. With the newer form of instrument, after sliding this needle through the tissues and bringing the point out, one continues to push the Peaslee shank through the needle hole. It has the advantage of a large gap, through which to put the thread that is to be drawn back, when it has been slipped under the carrying thread.

Now the new modification allows you to include much tissue (indicating) very readily, and is certainly of assistance. The

other addition consists in broadening the handle of the instrument, which makes it more easy to turn in the tissues. The advantage, then, of this needle is that you can take easily that (indicating) much tissue in between your needle, and by turning the shank at right angles to the operator, you can bring the point directly toward you and out of the tissues, which you could not do with the ordinary needle, very often having to hunt for the point high up in the vagina.

I experimented with another needle, in which the eye would admit of threading after passing through. I found each time the eye would cut. I show it to demonstrate that it is anything but a success. Fred Haslam made this last model :

Dr. Jewett : I should think it would be better to put the eye on the upper side.

Dr. Dickinson : I find the shoulder always catches the tissue, both going in and coming out. I cannot make that kind of an eye work at all.

Dr. Frank Baldwin : What do you use for a suture ? I see those eyes are very small.



Dr. Dickinson : I use thread, silk, or silkworm-gut. I like silkworm gut best for the carrying thread, because it stands out from the needle ; and either catgut or silkworm-gut for the suture.

Dr. Chase : I can understand, Mr. President, that a needle of that kind will work well in skilful hands. In fact, for operations of that kind I always use a Hagedorn needle, and I always use one that is as small as I can get to carry the ligature I wish to employ, for the reason that it is evident that the smaller the needle that will carry the ligature you want the better. Wounding the tissues more than is necessary is always a serious embarrassment and needless injury to the tissues themselves. It seems to me, however, that a Hagedorn needle, of the proper size, with the thread in the other end carried in the proper needle-holder, will meet some indications, which this will not, for this reason : you thread one of Dr. Dickinson's needles before you introduce it, and before you withdraw the needle you must

catch your thread with the tenaculum, and in the withdrawing of it you unnecessarily injure the tissues, and your thread does not fill the puncture.

Dr. Dickinson : The instrument is simply used like a Peaslee needle with a carrying-thread on it, and then one threads the suture one is to use between the needle and the carrying-thread, exactly as one does with the Peaslee needle.

Dr. Chase : That would obviate somewhat a trouble of that kind ; but I think it is advisable to use as small a needle as possible, and if the doctor used thread or silkworm-gut, it seems to me a needle somewhat smaller would fulfill the indications as well as this one ; here is a comparatively large needle and a comparatively small hole. Of course the question of ligature enters in. If one uses catgut one needs a larger needle than if thread or silkworm-gut be used, and what of these to use every one will determine for himself. My observation is that where there is no subsequent tension catgut is usually as good as silk or silkworm-gut, with the advantage that it holds long enough for union to take place, and obviates the removal of sutures and breaking down of tissues already united.

Dr. Ernest Palmer : I believe that the adaptation or utility of most instruments invented by operators has a personal advantage value not obtained when used by other operators.

My objection to Peaslee's needle, and all modifications of it, is that you have to re-draw the needle and carrying-thread to the point of introduction, thereby enlarging the canal in which the suture lies.

I prefer to use as thin a needle as will carry the suture, so that, when tied, the suture fills the needle hole completely.

JENNER CENTENNIAL MEDAL.

We are informed that at the dinner, to be given at the Pouch Mansion, on May 14th, to celebrate the centennial of vaccination, a handsome bronze medal is to be presented by the entertainment committee to each guest. That it will be an appropriate and beautiful souvenir no one doubts, who is acquainted with the composition of that committee.

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EDITORIAL.

FIFTH SYMPHYSEOTOMY AT LONG ISLAND COLLEGE HOSPITAL.

Professor Charles Jewett, Professor of Obstetrics at Long Island College Hospital, recently performed the fifth symphyseotomy at that institution, and both mother and child survive. We do not need to remind the profession that Professor Jewett performed this operation for the first time in this country. This is his third case. At the same institution Dr. R. L. Dickinson and Dr. R. H. Pomeroy, have each performed the operation once. Besides these five, Dr. J. L. Kortright has also performed the operation, making in all, six symphyseotomies for Brooklyn. All the mothers have survived and four of the children, the two lost died after birth from causes not connected with the method of the delivery.

...

CENTENNIAL OF VACCINATION.

At first thought, the event which the medical profession of Brooklyn are about to celebrate may seem of small importance, when it is considered in the light of the fact that Athens has just

been celebrating the beginning of the 776th Olympiad ; and that the athletes of the world have been journeying to Greece to revive the ancient Olympic games after an interval of fifteen centuries ; but our grandfathers can recollect the time when the description given by Macauley in his *History of England*, of the terrors of the loathsome disease was not an exaggeration. "The small-pox was always present, filling the churchyards with corpses, tormenting with constant fears all whom it had not yet stricken, leaving on those whose lives it had spared the hideous traces of its power, turning the babe into a changeling at which its mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of horror to the lover."

A hundred years ago, London had a population considerably less than that of Brooklyn to-day, yet statistics tell us that small-pox annually destroyed 1,2000 of her population ; and that Vienna, with less than a quarter of our number, lost in the year 1800, no less than 835.

In the city of Paris, there were in 1719, 14,000 deaths from smallpox. In 1768-69, one half the inhabitants of Kamschatka perished with the disease. In 1733 it almost depopulated Greenland, after having in 1709, carried off more than a fourth part of its inhabitants ; and we are told that when the Spaniards introduced their religion into the Land of the Aztecs, they brought with it the smallpox, which did far more than the cruel swords of Cortez and his band of invaders to "civilize" the country ; killing off in one year 3,500,000 of the natives ; nearly one-third the number of the present population of the Mexican republic.

There is probably no greater contrast in the whole history of mankind than this picture presents in comparison with that of smallpox in the countries where vaccination is enforced to-day.

In our great city we have gone whole years without seeing a single case, and last year (1895) there were but sixteen cases with one death among our million inhabitants, and the present year promises as clean a record.

The coming centennial celebration of the first vaccination which will be held on the fourteenth day of this month at the Pouch Mansion, should be enthusiastically entered into not only by the whole medical profession of our city without regard to society, clique, or school, but by sanitarians and all who feel like celebrating our immunity from the most dreadful scourge which ever afflicted humanity. The ladies, too, should participate in celebrating the preservation of their charming beauty from the

hideous scars which a hundred years ago were apt to disfigure their faces. Very few were so fortunate as the beautiful Duchess of Cleveland, who when taunted by one of her jealous companions that she might soon have to deplore the loss of the beauty which was then her boast, made reply : that she had no fear about the matter for she had had a disorder which would prevent her from ever catching the smallpox (she had evidently contracted the milk-maids' disease, for this was in the ante-vaccination days).

The entertainment committee have arranged for a great feast both for the palate and the mind, to celebrate the greatest medical event the world has ever witnessed.

JOSEPH H. HUNT, M.D.

DUTY OF PHYSICIANS IN CASES OF CRIMINAL ABORTION.

In a case recently tried in Brooklyn, in which a physician was charged with having committed an abortion, and on which charge he was exonerated by a jury, the District Attorney laid considerable stress upon the failure of the doctor to notify the authorities when, after the death of the patient, he suspected that, prior to his being called in to attend the patient, an abortion might have been produced. One of the strongest witnesses who testified in the doctor's behalf was Dr. George R. Fowler, who, when asked whether he would not under such circumstances have notified the coroner, answered that he would ; but that he would do so because he was familiar with his duty through his connection with hospitals and other public organizations, and added, that he could well understand how a physician who had not had this experience, would not know that such cases should be reported to the authorities, or in his anxiety for the life of his patient might neglect to do so, even though he knew that the report should be made. The opinion thus expressed will, we are sure, receive the hearty assent of the profession, in this part of the country at least. It would appear, however, from a recent occurrence that in England there is some doubt whether under any circumstances a physician should report such cases to the authorities.

The case referred to is the famous one in which Dr. Playfair, of London, was the defendant, and the result of which is that the doctor must pay \$60,000 for having, it is alleged, revealed professional secrets. In the course of the trial the judge, Mr. Justice

Hawkins, inquired of the defendant's counsel whether he considered it the duty of a physician to inform the authorities in case he found that a patient had submitted to an illegal operation. The counsel answered that the College of Physicians had so decided. "Then all I can say is," replied the judge, "that it will make me very careful in the selection of my medical man." From which remark there can be but one inference; and that is, that under the circumstances of the Brooklyn case, the English judge would not have regarded it as the duty of the doctor to notify the authorities.

Two very interesting and important questions are suggested by the consideration of the facts above mentioned. First, what is the duty of the medical man in this state when called to attend a patient whom he believes to have suffered from criminal abortion, and the patient is in no danger of losing her life? Second, what is his duty when death is imminent or has occurred?

Will some of our legal friends answer these questions for us, and thus enlighten the profession, relieving them from the danger on the one hand of being mulcted in damages for revealing professional secrets, and on the other of being suspected of being *particeps criminis* and indicted and put on trial therefor?

DEPARTMENT OF HEALTH AND BOARD OF ESTIMATE.

It is to be hoped that the Board of Estimate will not be niggardly in its provision for the Department of Health. In no part of municipal work is parsimony more pernicious than here. Without ample appropriation contagious diseases cannot be kept under control, and cleanliness of tenement houses and stables cannot be maintained. During the present year, by reason of insufficient funds granted by the Board of Estimate, the steam disinfecting plant at the Kingston Avenue Hospital has been discontinued, and thus one of the strongest modern allies of the sanitarian has been silenced. For the same reason the plan of house to house disinfection by means of corrosive sublimate and bread-rubbing has been abandoned as a general practice. It is most unfortunate that the results of years of labor on the part of health officers and bacteriologists as to the best means of disinfection are thus neutralized and a recourse to less efficient methods rendered compulsory. It is to be hoped that when the Health Commissioner sends in his wants for 1897 to the Board of Estimate, he

will include ample provision for a return to these approved methods, and call upon the profession to appear in their behalf before the Board of Estimate. Unless we are much mistaken the response to his request for such assistance would be such as to crowd the audience room to overflowing.

...

NEW YORK PHYSICIANS' MUTUAL AID ASSOCIATION.

The last annual report of this Association is the most gratifying that has as yet been published. Could the good which the Association has done in relieving the imperative wants of the needy physicians during their lifetime, and those of the family at the death of the breadwinner, be published, it would be a tribute to the founders which has but few parallels. But such knowledge is of too sacred a character to be more than hinted at. The membership is now 1333, and the permanent benevolent fund \$25,669. The announcement is made that after May 1 the initiation fee is to be increased. We would advise every physician to connect himself at once with this organization, both for his own and his family's benefit, and especially for the good which he can do to the needy members of his profession.

...

CIRCULAR OF INFORMATION FOR CONSUMPTIVES.

This circular, which has been issued by the Department of Health, and which we publish elsewhere, is of a most practical character. There is no telling what the result would be in the diminution of the ravages of this disease, if its provisions were conscientiously carried out by consumptives, and by those who have the care of them. We commend it to the profession for careful study. They, and they more than any others, are in a position not only to recommend, but to urge that the precautions mentioned in the circular be constantly observed.

...

HON. D. M. HURLEY, M.C.

Through the kindness of Hon. D. M. Hurley, Member of Congress for the Second Congressional District, we have received for the library the Transactions of the Pan American Medical Congress

which met in Washington in 1893. It consists of two volumes, 2250 pages, and is a valuable contribution to medical literature. Mr. Hurley is the introducer of the bill in the present Congress to make the use of the metric system obligatory in the United States after July 1, 1898.

♦♦♦

PROGRESS IN MEDICINE.

SURGERY.

BY GEO. R. FOWLER, M.D.

ASSISTED BY R. S. FOWLER, M.D.

EPAULETTE DRESSING IN TREATMENT OF FRACTURED CLAVICLE.

Egbert Braatz (*Centralblatt für Chirurgie*, 1896, I, 1) calls attention to the fact that a perfectly satisfactory form of dressing for fracture of the clavicle has not as yet been introduced. Sayre's procedure, though based on excellent principles, having several inconveniences. Sayre dressing being the best of the several dressings for fractured clavicles, the author has ventured to modify it; with what success the reader must be the judge.

The author's aim is to protect the patient from pressure, and to prevent the displacement of the various parts of the bandage. To accomplish these ends he makes two "caps;" one for the shoulder of the unaffected side, and the other for the elbow of the affected side. The caps are made of a material called "hessian" (resembling sack-linen) and plaster-of-Paris.

The method is as follows: The elbow and upper portion of the forearm of the affected side are covered with wadding, which is held in place by a few turns of a roller bandage of some soft material. A piece of hessian is cut of sufficient size to cover this, and dipped into a mixture of equal parts of plaster-of-Paris and water. This is applied over the wadding, and is in its turn held in place by a roller bandage. The plaster-of-Paris soon hardens. This forms the elbow-cap. This cap should also be upholstered on its costal side to prevent pressure effects on the thorax. The shoulder-cap is formed in much the same manner. The shoulder of the sound side is first covered with wadding, then the hessian dipped into the plaster-of-Paris mixture, care being taken that the cap is not large enough to interfere with the motion of the joint, particularly abduction of the arm. To pre-

vent the bandage from sliding off this shoulder-cap, an "epaulette" of plaster-of-Paris is built at its outer part. This is accomplished by dipping strips of hessian three inches long by one inch in width in the plaster-of-Paris solution, and applying them one above another on the outer portion of the cap until a height of an inch or so has been reached. This serves as a knob or shoulder to prevent displacement of the bandages.

A double loop of bandage is first passed loosely around the arm of the affected side. Then a series of turns of another bandage are passed around the capped shoulder and elbow. These turns are made to fit quite snugly, there being no fear of pressure effects, because of the upholstered caps. The arm of the affected side is now pulled strongly backward by means of the bandage encircling it, and this bandage is passed around the body, and is fastened to the oblique bandage at the anterior part of the chest. The fastening is done with safety-pins, which are used to hold the dressing in place at each point of intersection of the bandages. A third bandage is now applied surrounding the chest and arm, and this steadying the two bandages already applied. A sling is now passed around the wrist of the affected side, and its free end passed over the affected clavicle and secured to the bandage crossing the back. At the point where this sling crosses the site of fracture a bunch of cotton is placed. This exerts firm, yet gentle pressure. The dressing is then completed.

BRONCHITIS AND PNEUMONIA FOLLOWING ETHERIZATION.

Grossmann (*Deutsche med. Wochenschrift*, 1895, No. 29) states that the cases of bronchitis and pneumonia sometimes following etherization are not due to irritation of the trachea and bronchi by the ether, but to the entrance into the trachea and bronchi of the mucus secreted by the nose, mouth, and pharynx.

The author has estimated that the quantity of mucus thus secreted is between ten and twenty cubic ctm. To avoid the entrance of this foreign matter into the bronchi, a very simple method is used, namely: placing the head low and turning it to one side, that the secretions may flow through the nose and lower angle of the mouth. He has found that affections of the lungs, following ether narcosis are much more frequently met with in persons suffering from chronic nasal and pharyngeal diseases than in those not so affected; the reason being that in the former the tough secretions can with difficulty flow from the nose and mouth angle.

In conclusion the author states that his experience teaches him that the purity of the ether does not influence in any way the course of the administration. He also states that pneumonia subsequent to etherization is always due to the carelessness or lack of skill of the anesthetist.

OBSTETRICS.

THE QUESTION OF PUERPERAL SELF-INFECTION.

BY CHAS. JEWETT, M.D.

(*Trans. N.Y. State Med. Soc.*, 1896: *Am. Gyn. and Obstet. Jour.*, March, 1896.)

Puerperal self-infection, in the sense in which the term has come to be used, refers to childbed infection from bacterial organisms primarily present in the genital tract. It is contradistinguished from contact infection, in which the causative agent is conveyed to the patient during the lying-in period. The conception, however, is an unfortunate one, since all infection is primarily from without.

The title of the paper would be better stated, "The Relation of Pus-producing Germs Primarily Present in the Body of the Pregnant Woman to Childbed Sepsis." The important practical part of the question concerns the vaginal secretion since upon this hinge moot points in treatment, and to this my remarks will be confined. Is the average lying-in woman liable to infection from the bacterial contents of the vagina? It would seem primarily that she is. The vagina like other open body cavities is exposed to the invasion of pathogenic germs. The gynecological surgeon treats the vaginal surface as he does the skin; he prepares the field with no less care here than in abdominal operations. Must the obstetrician pursue a similar practice?

The bacteriological literature bearing on the relation of the vaginal secretion to puerperal sepsis is a voluminous one. The views and findings of different observers are conflicting. Essentially three opinions prevail:

1. That the vaginal secretion may infect, whether healthy or diseased.
2. That only pathological secretions can infect.
3. That the vaginal bacteria either in health or disease have practically no part in the etiology of childbed fever.

The more or less frequent presence of wound infection germs

is admitted by all. From this fact it is assumed by the extremists that the vaginal secretion is always a possible source of puerperal infection.

Döderlein and his followers hold that pathogenic micro-organisms exist in active condition only in pathological secretions. In normal conditions they are killed by the acid vaginal mucus. Clinically, healthy are distinguished from diseased secretions by their reaction to litmus as well as by their gross appearance. In health the reaction is strongly acid; in disease it is alkaline, neutral, or feebly acid.

Krönig, on the other hand, contends that the secretion, whether healthy or not, is always sufficiently acid to prevent the growth of the pus streptococcus.

Of 16 obstetric authorities consulted in our own country and in Germany and Austria,* 9 make use of prophylactic douching as a routine practice, 7 reject it in normal conditions. All, of course, observe a rigid subjective and external disinfection. Such statistics as could be obtained showed a slightly diminished death-rate in the douched cases. The difference, however, was but one-twentieth of one per cent. and was quite as likely due to difference of methods in other particulars as in douching.

These facts would seem to show that the opponents as well as the friends of the douche have been too radical. Those who reject prophylactic douching during labor maintain that it breaks down the natural safeguards against infection; that, moreover, the superficial necrosis produced by concentrated antiseptic solutions increases the risks they are intended to prevent. These views are not substantiated by the experience cited. Little or nothing more is proved against the douche than that it is unnecessary. In expert hands it would appear to be practically harmless, even in normal conditions of the vaginal secretion. It is apparent, however, that what has been accomplished in diminishing the septic mortality and morbidity of childbed must be credited almost wholly to measures addressed to the prevention of contact infection.

More conclusive are the results of observations in parallel series of cases made in one and the same clinic, with and without vaginal antisepsis.

Zweifel found from investigations in a large number of births, in a portion of which the douche was used and in the others

*Lusk, Ayers, McLane, Grandin, Coe, Murray, (New York Maternity), Edgar, Davis, Hirst, Norris, Green, Kelly, Neale, Fry, Etheridge, Zweifel, Goldberg, Schauta.

omitted, that vaginal douches influenced the course of the puerperium more unfavorably than the "omission of the same." He holds that the healthy parturient, in the absence of contact-infection, is safe against septic disease. The natural secretion, he believes, is a better protection than any artificial antiseptic.

At Leopold's clinic, during the past few years, numerous observations in a very large number of cases have convinced him that irrigation is not only not indispensable, but that in normal births it does positive injury.

In a series of 427 cases, gradually collected, of women who were neither examined internally nor irrigated, the result was extraordinarily good, only $7\frac{1}{6}$ per cent. showing elevation of temperature due to infection. In about the same number of cases in which the vagina was washed out before each examination with a weak disinfectant, 1:4000 bichloride, the result was not so good.

Of 1136 cases occurring between May 1, 1888, and April 25, 1889, in which, after the usual external cleansing, the vagina was gently irrigated with 1:4000 bichloride, 80 per cent. had no elevation of temperature above 38 C.; 20 per cent. had fever, in some cases very high, and there were some deaths. Since in 1887 the percentage of fever-free patients had been 82.8, it was believed that the douching was injurious.

The query was then suggested, What would be the result if all use of vaginal antiseptics, even in cases which were examined a number of times, were abandoned, and attention confined entirely to subjective disinfection and to the cleansing of the external genitalia?

Eleven hundred and twenty-three normal confinements were treated in accordance with this plan. The normal mucous discharge was allowed to remain in the vagina, and the result was much better than in the preceding series; the number of perineal and vaginal tears diminished; there were fewer cases of hemorrhage, less fever during the puerperium, and the general health of the patients was markedly better. Ninety and twenty-nine-hundredths per cent. had no rise of temperature above 38 C.

In a series of 1358 births during the year 1890: 1254, or 92.34 per cent., had no fever during the puerperium; 1073 of these were normal labors and were not irrigated although 804 were examined internally. Of 1487 similar cases in 1891, 91.6 per cent. were wholly free from fever. The conclusion reached was that disinfectant irrigation of the vagina in normal births

is oftener harmful than helpful, and should be resorted to only when pre-existing infection is probable. His results were always better in such cases without douching than with it. Prophylactic irrigation of the vagina in normal confinements he regards as not only an unnecessary but in many cases a dangerous procedure.

Leopold's experience is summed up in the following table:

EXPERIENCE AT THE DRESDEN CLINIC. (LEOPOLD.)

YEAR.	DOUCHED.					NOT DOUCHED.			DOUCHED.	
	1886.	1887.	1888.	Till April, 1889.	From April, 1889.	1890.	1891.	1893.	1893.	Jan to June, 1894.
Number of observations...	1,387	1,388	1,389	41	836	1,358	1,467	437	437	200
Feverance.....	78.3	62.3	79.1	83.1	90.8	92.3	91.6	61.4	87.0	84.6

This array of clinical facts, coming from so reliable a source and so carefully worked out from a large number of cases, is entitled to great weight. It is sufficient alone to dispose of the question of self-infection in healthy women, and it condemns the routine douche as a useless and even injurious practice.

That puerperal fever can sometimes be traced to pathological conditions of the vaginal secretion is a matter of common observation. This is frequently true in the presence of gonorrhœal infection. The writer's practice for several years has been to use no antepartum douching except for cause. Repeated vaginal examinations have been made and instrumental and manual operations performed with no internal disinfection in women apparently in health. Yet he has had no septic death in more than 10 years after labors wholly under his personal care. Minor grades of infection have occurred rarely. Some of the latter in his recent experience he could trace to a previously unrecognized chronic gonorrhœa. One case seen in consultation and believed to be mixed gonorrheal infection ended fatally.

In 31 consecutive hospital births recently conducted under the writer's supervision, without internal disinfection during labor, there was septic fever in 5. In 4 of the fever cases there was a subacute or chronic gonorrhœa. The puerperal temperatures ranged from 100° to 103° F. Looking over a large number of hospital histories, 16 cases having gonorrhœal secretions were collected. The diagnosis was substantiated by the occurrence of ophthalmia in the child in 12, the Credé solution having

been imperfectly applied. In the remaining 4, the history, together with the character of the vaginal discharge, left no room for doubt. Eight had feverless childbeds; in 8 the temperature exceeded 100° F.; in 5 the maximum was over 100.5° , and in 3 it reached 103° F. There were no deaths.

Krönig publishes a series of observations in 9 cases of gonorrhœa in childbed. In 4 the temperature rose to 104° F.; 7 had marked fever for two weeks after confinement; in 2 there was septicæmia. Krönig believes the infection tends to invade the uterus after labor.

With reference to the value of the litmus reaction for distinguishing pathological from normal secretions, Dr. Jewett has not been able to fully confirm the findings of Döderlein. In 53 examinations the reaction was strongly acid in 36, feebly acid in 16, and alkaline in 1. A marked acid reaction was noted in three instances in which the secretions were yellowish or greenish in color, and evidently diseased. Of the feebly acid secretions, the gross appearance was normal in one. Additional observations were made by Dr. H. F. Jewett on 9 patients in the gonorrhœal ward at the Kings County Hospital. The vaginal secretion showed a strong acid reaction in 2, a feebly acid reaction in 4, and was alkaline in 3. All these patients had passed the acute stage. In the two yielding a strongly acid response to the litmus test the characteristic discharge had ceased for over two weeks. While the litmus reaction is generally to be trusted, the only strictly reliable evidence, at least in border-line cases, must be sought in culture tests.

The existence of a yellowish, greenish or fetid, and especially of an excoriating discharge is to be taken as evidence of disease and of the presence of wound-infection germs in virulent condition. In all such cases prophylactic disinfection is indicated.

Even when hand or instrument is to be carried into the uterus, long experience leads the writer to believe that vaginal disinfection is unnecessary provided the secretion is healthy, the woman in good condition, that all else is aseptic, and that no special violence is done to the parts.

When disinfection is called for, on whatever indication, it should be of the kind usual in surgical work. A green-soap and hot-water cleansing for five minutes, followed by irrigation for the same length of time with a weak mercurial, a carbolic, or a creolin solution, removes the germ-laden secretion.

If the mercuric salt is used, the injection is followed with a quart or two of normal salt or a saturated boric-acid solution, to prevent mercurial poisoning. The cervical canal is included in the process. Gentle friction is essential with both steps in the cleansing. To avoid abrasions the friction is best applied with the fingers or with a cotton ball or a soft cheese-cloth sponge held in the grasp of a dressing-forceps.

When time permits, morbid secretions are best corrected by a mild but prolonged antiseptic douche repeated once daily or oftener for several days before labor. A tight packing with iodoform gauze maintains in some degree a continuous disinfection. It is unnecessary to say that these measures are to be conducted under an asepsis, both subjective and objective, no less strict than is practiced in major surgical procedures.

The writer's conclusions are as follows :

There is no clinical proof that puerperal infection can occur from normal vaginal secretions.

All childbed infection in women previously healthy is by contact.

Prophylactic vaginal disinfection as a routine measure is unnecessary and even in skilled hands is probably injurious.

Its general adoption in private practice could scarcely fail to be mischievous.

In healthy puerperae delivered aseptically post-partum douching is also contra-indicated.

These rules must hold good in the simpler cases of manual or instrumental interference in which the uterus is not invaded.

A purulent vaginal secretion exposes the woman to puerperal infection.

In the presence of such discharges at the beginning of labor the vagina should be rendered as nearly sterile as possible.

Concentrated antiseptic solutions should not be used, and the process should be conducted with the least possible mechanical injury to the mucous surfaces.

In case of highly infectious secretions the preliminary disinfection should be followed by douching at intervals of two or three hours during the labor.

Sterilized glycerin or other suitable material may be used to restore the proper lubrication of the birth canal.

The safest and most efficient means for correcting vicious secretions is a mild antiseptic douche, repeated once or more daily for several days during the last weeks of pregnancy.

It is the duty of the obstetrician to know before labor the amount and character of the vaginal discharge.

Clinically, the amount of the discharge its gross appearance and that of the mucous and adjacent cutaneous surfaces usually furnish a sufficient guide to the treatment.

Probable unclean contact within 24 or 48 hours before labor is an indication for prophylactic disinfection.



PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society's Building, 356 Bridge street, on Tuesday evening, March 17th, at 8.30 o'clock.

The president, Dr. George McNaughton, in the chair.

Dr. W. C. Braislin, assistant secretary.

The minutes of the February meeting were read and, after correction, approved.

REPORT OF COUNCIL.

The council reported favorably upon the following applications, and recommended that they be elected to membership:

Dr. Frank D. Merritt, P. and S., N. Y., 1893.

Dr. Martin L. Bodkin, P. and S., N. Y., 1894.

Dr. Wm. B. Hustes, Licentiate Greene Co. Med. Soc., 1895.

Dr. F. E. Lambert, L. I. C. H., 1894.

Dr. F. P. Bergen, L. I. C. H., 1894.

Dr. Wm. S. Hubbard, L. I. C. H., 1894.

Dr. L. J. Morton, L. I. C. H., 1884.

The council presented a communication from E. H. Harrison, the attorney of the society, in relation to the prosecution of persons unlawfully practising medicine in Kings County, stating that steps had been taken which resulted in the arrest of one Michael Fleisch of East New York, who, after arraignment, gave a bond to the society in the sum of \$250, conditioned on his refraining from any further offense, and paid the society the sum of \$50 to cover the expenses of the prosecution.

The council presented a communication from the Committee on Legislation of the State Medical Society in reference to Assembly Bill No. 727, entitled "An Act to Incorporate the Optical Society of the State of New York," which gives to this society

(not composed of medical men) the exclusive right to issue certificates to opticians, at the rate of \$25 each; also the right to license "refracting opticians." The committee on legislation requested all physicians to protest, through their respective Senators and Assemblymen, against the passage of the bill, and that the representative should use his influence to defeat it.

The council announced that, according to the power vested in them by the by-laws, Dr. C. F. Barber had been unanimously chosen trustee to fill the vacancy occasioned by the death of Dr. I. H. Barber.

The council further reported that they had received and acted upon the resignation of Dr. S. C. Griggs.

On behalf of the Committee on Legislation of the State Medical Society, Dr. J. M. Winfield moved :

"That the Secretary of the Medical Society of the County of Kings prepare a protest against Assembly Bill No. 727 for the incorporation of the Optical Society of the State of New York, and address a copy of it to the following:

Hon. Hamilton Fish, Speaker of the Assembly.

Hon. John B. Stanchfield, leader of the minority in the Assembly.

Hon. F. C. Robbins, chairman of the Judiciary Committee.

Hon. Geo. W. Brush, chairman of the Public Health Committee.

On motion, duly seconded, this motion was unanimously adopted.

The report of council was received and adopted,

APPLICATIONS FOR MEMBERSHIP.

The secretary presented the following :

Dr. John Milton Holt, Long Island College Hospital; L. I. C. H., 1895; proposed by Dr. Geo. McNaughton, Dr. W. C. Braislin.

Dr. Mary de Booij Ingram, 196 Joralemon street; Michigan Univ., 1893; proposed by Dr. Geo. McNaughton, Dr. Jerome B. Thomas.

Dr. P. Chalmers Jameson, 105 Montague street; L. I. C. H., 1892; proposed by Dr. Jerome B. Thomas, Dr. Geo. McNaughton.

Dr. Elizabeth Cowan Gilkison, 62 Hoyt street; Syracuse Med. Coll., 1891; proposed by Committee on Membership.

Dr. Augustine Joseph Molloy, 129 William street; Dartmouth, 1895; proposed by Committee on Membership.

The following having been reported favorably by the council

at the February meeting, were declared by the president elected members of the society :

Dr. Thomas B. Spence.

Dr. Charles R. Butler.

Dr. William Y. Finch.

Dr. Wm. C. J. Schmidt.

SCIENTIFIC BUSINESS.

Dr. Ernest Palmer presented a "Uterine Curette, New Pattern."

Discussed by Dr. L. W. Pierson.

Dr. John C. Schapps presented a paper entitled "The Mechanical Treatment of Flatfoot."

Discussed by Drs. J. M. Clayland, Walter C. Wood, Wm. Browning, and Eliza M. Mosher.

There being no further business, on motion adjourned.

WM. C. BRAISLIN,

Asst. Secretary.

LONG ISLAND ASSOCIATION OF THE ALUMNI OF
COLUMBIA UNIVERSITY (MEDICAL DEPARTMENT).

There has recently been organized in this city an Alumni Association of the College of Physicians and Surgeons of New York and will be known as The Long Island Association of the Alumni of Columbia University (Medical Department).

The following officers were selected to govern the affairs of the Association for its first year: Charles Jewett, M.D., president; H. Beekman Delatour, M.D., vice-president; E. S. Hodgskin, M.D., treasurer; C. F. Barber, M.D., secretary. Directors: Geo. Wackerhagen, M.D., Ernest Palmer, M.D., H. A. Fairbairn, M.D. A large number of the Alumni have already signified their good wishes for the Association, by joining, and as it will be both scientific and social, its success is assured.

Respectfully yours,

C. F. BARBER.

THE KINGS COUNTY MEDICAL ASSOCIATION.

The following gentlemen have been appointed delegates to the American Medical Association, which meets in Atlanta, May 5th: Dr. H. A. Alderton, Dr. A. Boyce Marion, Dr. T. M. Lloyd, Dr. E. H. Squibb.

The twelfth annual meeting of the Fifth District Branch of the New York State Medical Association meets in Brooklyn, 315

Washington Street, May 26th. The following gentlemen have been appointed delegates: Dr. A. Brinkman, Dr. A. C. Brush, Dr. E. S. Hodgskin, Dr. J. J. O'Connell, Dr. E. Reynolds, Dr. H. C. Riggs, Dr. C. T. Schondelmeier, Dr. Jerome Walker, Dr. Chas. Ware, Dr. Adolph Wieber.

At nine o'clock Dr. Wm. H. Park of the New York Health Department will read a paper entitled "A Year's Results in the Treatment and Prevention of Diphtheria with Antitoxin." It will be discussed by Health Commissioner Z. Taylor Emery, Dr. E. H. Wilson, Bacteriologist to the Brooklyn Health Department; Dr. A. S. Ambler, Superintendent of the Kingston Avenue Hospital; Dr. Wm. L. Stowell of New York, and others.

The President would be glad to communicate with members desiring to read papers at meetings.

All regular practitioners of medicine and medical students are invited to attend the meetings and participate in the discussion, and to remain as guests of the Association after the meeting.

J. C. BIERWIRTH, President.

F. C. RAYNOR, Secretary,
163 Clinton street.

BROOKLYN SOCIETY FOR NEUROLOGY.

Stated meeting held Thursday, February 27, 1896. At 9 P.M. Dr. A. C. Brush read a paper entitled "Paramyoclonus Multiplex."

ABSTRACT.

The clinical picture described has varied. It is a tonic or clonic spasm associated with tremor, affecting one or more muscles and often symmetrical. It does not affect groups, and may involve different parts successively. As to the muscles most often involved, observers differ.

The spasms occur in paroxysms lasting from a few minutes to two hours.

They may be painful and produce violent movements.

They may occur during sleep and be arrested by voluntary movements. The reflexes are exaggerated.

Most of the cases have commenced with attacks of pain in the muscles and marked cerebral symptoms.

The etiology is unknown. It occurs most often in males, between fifteen and sixty, and without personal or family neurotic history.

The motor nervous apparatus is divided into three levels: the psychic, cerebral, and spinal.

The function of the spinal motor centers is to keep up the muscular tone and produce purposeful contractions, but marked peripheral impressions may also cause involuntary contractions.

Involuntary contractions of spinal origin may occur from loss of cortical inhibition, increased irritability of the center, or marked peripheral impulses.

Spinal spasms may occur in any part, usually symmetrical; the involvement is irregular, diminished by voluntary movement, continue during sleep, and the reflexes are exaggerated.

The exact function of the cerebral centers is yet unsettled. Their discharges produce definite movements.

They are principally in relation with the opposite side of the body.

Their function is a dual one: To produce voluntary discharges of the spinal centers, and at other times to inhibit such discharges.

This level is, like the spinal, controlled in the same way by a higher or psychic.

Spasms of cerebral origin are usually most marked in the face and arm, hemiplegic in type, and tend to involve associated muscles, increased by volition, cease during sleep, and the reflexes are unchanged. The inhibitory powers of the psychic level are weakened by emotions or disease, producing disorders of the lower centers.

Then follows an analysis of nine cases—three seen by the writer and those reported by Freidreich, Marie, Starr, Charcot, Owen, and Stuart. The last two are not considered to be cases of this disorder.

In the first seven cases, in five the lesion seemed to be spinal, and secondary to cortical disturbance in four. In the other two it seems in one to be cerebral and in the other to be equally marked in both levels.

Hirt and Wood consider it a form of hysteria. It, however, differs from other hysterical conditions in that it is not preceded or accompanied by other hysterical stigmata, that there is no family or personal neurotic history, and that it occurs in males over twenty.

The clonus differs from that of hysteria in not involving associated muscles, and cannot be imitated.

To include this condition under the name of hysteria, we must admit a form occurring in healthy adult males, which begins with

cerebral symptoms and is not preceded or accompanied by other hysterical stigmata.

DISCUSSION.

Dr. Browning : The writer speaks of it is a multiplex, while he says it occurs in only one muscle. I do not think the first case was an example of this condition, and must be classed otherwise. It was a myotonus. The only undoubted case I ever saw was in 1881. This was in the case of a vigorous man, a hunter by occupation. This patient would have a series of painful contractions, involving the right shoulder and neck. He gradually improved. I think the latest writers classify this condition as hysterical, and I think there was a good basis in this case. He was an illegitimate child. His daughter was suddenly cured of phthisis at a religious meeting, but on being told of some symptoms she did not have, relapsed and was again cured. I fully believe his trouble to be hysterical.

Dr. Elliott : I have seen one case corresponding to paramyoclonus. In this case it was unquestionably hysterical. It was in an intelligent man of thirty-three. It involved the legs symmetrically, giving rise to a feeling of intense irritation, more than actual movement, and preceded by a tendency to cry. It occurs especially when he goes to bed, usually most marked on the right side : is absolutely beyond control, but is increased by attention. It improved with improvement in his physical condition. I believe this to be a hysterical condition. French authors are inclined to magnify small things and multiply classes. I think that it is a manifestation of hysteria, but I should like to know more of its pathology. I think in the case of injury to the skull will be found a condition of irritation of the cortex.

Dr. Brush : Mr. President, as I said in my paper, the clinical descriptions of this condition vary, but there is enough similarity to enable us to class them together. The name multiplex may not be suitable for cases where the spasm is confined to one muscle, but as it has never remained so for any length of time, it is perhaps not inappropriate.

As to the character of the spasms, the word *tonus* would be the more correct, as it was of a tonic character in my own cases and most of the reported ones. The difference, however, between tonic and clonic spasms is more apparent than real. The lesion is the same in both cases. The difference to the fact that in the clonic form we have a simultaneous and rhythmical dis-

charge of all the nerve cells governing a muscle, while in the tonic form there is an irregular discharge.

I did not intend to deny that this might be a hysterical condition. Hysteria, especially in the male, may exist as a mono-symptomatic condition, but I think, as a rule, these cases, sooner or later, show some other stigmata of the disease, or a change in form.

To classify this condition as hysterical, we must then, as I have said, admit a form which occurs only in adult males, without previous family or personal neurotic history, and which runs a well-defined course.

ARTHUR C. BRUSH, M.D.,
Secretary.

BROOKLYN SURGICAL SOCIETY.

Meeting of December 12, 1895.

SARCOMA OF THE TONSIL AND FAUCES REMOVED BY EXTERNAL PHARYNGECTOMY.—PRESENTATION OF PATIENT BY DR. FOWLER.

The doctor stated that the patient was admitted at St. Mary's Hospital in April last, with a growth in left tonsil and fauces. He had experienced trouble in his throat four months previously, and from that time the growth had increased very greatly in size. Upon examination, the growth presented the gross appearance of melano-sarcoma.

The patient was prepared for operation, and the growth removed by external pharyngectomy, as follows :

The patient's head was well extended and turned to the opposite side. An incision, commencing below the lobe of the ear was carried downward and forward along the anterior margin of the sterno-mastoid muscle, to a point about half an inch below the level of the hyoid bone. A second incision, commencing about halfway between the angle of the jaw and the symphysis, was carried downward and backward to meet the first. The flap thus marked out was dissected up, and included all the tissues down to the sheaths of the muscles. The facial and lingual arteries were divided and secured ; the external jugular vein was divided between two ligatures. The hyoid attachment of the stylohyoid was severed, and this, together with the posterior belly of the digastric and the important structures (vessels and nerves) of this portion of the anterior triangular space, were

retracted downward and backward by means of a blunt retractor. The mylohyoid was retracted anteriorly. With a mouth gag in position, the forefinger of the operator's left hand was then passed into the patient's pharynx and the diseased parts pressed well down and in an outward direction. A circular incision was then made with the thermo-cautery knife through the hyoglossus, superior constrictor, and mucous membrane, so as to include the diseased area, which was finally removed. This included the tonsil, the anterior faucial pillar, half of the velum, and a portion of the floor of the mouth.

The patient made a good recovery and in the course of four weeks the external wound was healed. Not long after, what seemed like a mass of granulation tissue was found to occupy the place from which the disease had been removed. A portion of this was removed and sent to the pathologist of the hospital, who reported that it presented the ordinary appearance of sarcoma under the microscope.

Further operative interference was not deemed desirable and it was decided to place the patient upon the treatment by means of injection of the sterilized products of the streptococcus of erysipelas, and bacillus prodigiosus.

The injection material was made by Dr. Wilson at the Hoagland laboratory, and the injections were made at intervals of three days for three weeks. Very decided reaction followed each injection, which was made deeply in the left arm; massage was resorted to after each injection, so as to disseminate the injected material rapidly. Following each injection the temperature rose to 103° Fahr.; this was preceded by a sharp chill. There was usually about one day's illness following the injections, and the patient was thereafter able to resume his occupation as a traveling salesman. He visited the hospital each third day, received his injection, returned home and went to bed for a day, and upon the following day would start on his journey. At the end of three weeks, the parts having healed, the injections were given less frequently; at first every four days, and finally once a week, as prophylactic treatment against recurrence. They were discontinued in the early part of last September. Since that time the patient has not been under treatment, and considers himself well.

The doctor added, by way of observation, that if one could say, without any doubt, that there was a recurrence of this disease within four weeks, then the experience gained in this case

would be invaluable, but there must remain some doubt as to the character of the material removed, in view of the difficulty of differentiating even with the microscope between simple granulation tissue and recurrence of sarcoma. The doctor expressed it as his belief that most of the credit of the cure is due to the operation and not to the injections of the cultures of streptococcus erysipelatis.

Dr. Bristow stated that he had had about eight cases of sarcoma and carcinoma treated by Dr. Coley's toxins, and called attention to the fact that in every case in which he had used these remedies there had been for a time an apparent improvement. In a case of epithelioma of the orbit, even for which Dr. Coley made no claim for the toxins, the erosion became less rapid and discharge diminished.

In a case of osteo-sarcoma of the clavicle before commencing this treatment he took a plaster cast of the tumor, and after a considerable length of time a second cast was taken, which showed that the growth had diminished about one-third. But, as has been remarked, the effect on the general condition is very great. He had seen a man shake as from a congestive chill, from a dosage of but one minim, and this was followed by a depression with correspondingly severe results, so that after a time the constitutional results of this treatment are so depressing that it must be discontinued, temporarily at least. In a case of an inoperable epithelioma of the orbit, in which the eye had been enucleated, the doctor saw the case with Dr. Rand, after an injection, which had produced for a short time a mild hemiparesis, which passed off after an hour or two, the cause of which the doctor was not able to discover. He expressed the fear that the erysipelas treatment of all these malignant growths is destined to ultimate failure. He quoted the experience of Dr. Keen of Philadelphia, as being the same; that he had tried it in eight cases and in none of them had there been anything which pointed to a permanent cure. Dr. Senn of Chicago has had a similar experience, and like reports are coming from the German hospitals.

Dr. Wood thought it should be added that at the time when these injections began there was a red growth at the site of the operation. During the progress of the injections the whole region became white and glazed; a remarkable change had occurred. The redness now present in the man's throat has appeared since the injections were stopped last September. Whether that change

was the result of the treatment with injections or simply coincident with it, he was not able to say. He did not think the case should be considered as one cured by this means, but as one presenting great interest. These injections are not applicable to all cases of sarcoma, because the chill and the temperature that follow their use is very considerable, and if the malignant growth is of large size, the reaction which follows is so great that it depletes the patient in a month or a few weeks, and the result of the treatment is decidedly bad. If we have a valuable therapeutic agent in this in-
jection it will be only in those cases of small sarcomas in inoperable localities rather than in large growths of the same nature.

Dr. Fowler said that three of the cases which Dr. Coley reports as having been undoubtedly improved by the treatment, were cases Dr. Coley sent to himself. All three of them were in the neighborhood of the lower jaw, or the tissues of the neck. Two of the three cases returned to Dr. Fowler after three months of the treatment. In these there certainly had been a diminution of the growth, and in two cases, where ulceration had already taken place, the ulcerated surfaces had healed. Although Dr. Fowler had not been able to follow these cases to their final conclusion, he stated that he was sure that in each case there was still evidence of the disease after three months. He stated that he knew of no instance in which an indubitable cure had taken place.

Dr. Fowler stated, that in connection with this subject he recalled a case which perhaps illustrates rather forcibly the failure to excite any reaction by the injection of the sterilized toxins of erysipelas. It was that of a young man who came under his care with sarcoma of the left testicle. It was removed, and shortly afterward he complained of pain in right knee joint. There rapidly developed a sarcoma of the upper extremity of the tibia. An amputation was done in the middle third of the thigh. Before the wound in the thigh was healed there appeared a sarcomatous growth in the neighborhood of the crural ring in the other limb. Before healing was finally accomplished the left elbow became affected. He was then put upon the toxin treatment, the mixture being obtained from Dr. Coley himself. Although the injections were increased from 1 to 5 minims, there was absolutely no reaction followed any of the injections. They were given at short intervals at first, then at longer intervals, and then at short intervals again. A thorough trial was given, but there was only the slightest appreciable reaction, which might not have been the reaction of the toxin at all.

Meeting of December 19, 1895.

MALIGNANT DISEASE OF THE UPPER JAW. EXCISION. PRELIMINARY TRACHEOTOMY.

Dr. Fowler presented a specimen of malignant disease of the upper jaw, removed at the Brooklyn Hospital, on that day. The patient was twenty years of age, who first experienced some pain and noticed a swelling of the left cheek four months ago. She consulted a physician, who evidently thought it was a case of alveolar abscess, and made an attempt to cut into the swelling from the mouth. This resulted in some hemorrhage and the growth progressed more rapidly. Preliminary tracheotomy was performed and Trendelenburg's tampon canula inserted, through which the anesthetic (chloroform) was thereafter given. The entire upper jaw of the left side was removed by the usual incisions of Ferguson. The case is of interest from the fact that the disease evidently commenced in the antrum and has scarcely extended beyond the antrum and its anterior wall. Because of this it is one of the cases in which it may be hoped that recurrence will not take place. It is also of interest to note for a moment the ease with which the operation was accomplished, by employing the tampon canula of Trendelenburg. The arterial hemorrhage was slight, and inasmuch as the operation was performed with the patient's head thrown rather forward, the venous hemorrhage was but trifling. With the other methods of operation, the operator would have been compelled to fight from first to last to keep the patient's air passages free from blood. In addition to this, by the older methods the anesthetic must be suspended from time to time in order to permit the operator to work. In consequence of this it not infrequently happens that the patient comes out of the anesthetic, vomit at a moment when spouting blood vessels have to be secured. The operator thus becomes greatly embarrassed in his work by the struggles of the patient, and the latter is subjected to great suffering.

CARCINOMA OF THE LOWER JAW, TONGUE, AND FAUCES. EXCISION. PRELIMINARY TRACHEOTOMY. PRESENTATION OF SPECIMEN BY DR. FOWLER.

Dr. Fowler stated that the patient from whom this specimen was removed was thirty-nine years of age, a saloon-keeper by occupation, who five months ago applied to a dentist to have a tooth removed, which had become loosened without any appreciable cause. The dentist removed the tooth and then proceeded to treat what he called an ulcer surrounding the tooth. The tooth

removed was the second molar on the lower half of the left jaw. The ulcerating process continued in spite of the dentist's effort. He applied at Dr. Fowler's office within a few days, having been recommended to do so by Dr. George W. Jacobi of New York, whose care he was under at the time for disseminated or multiple neuritis of the lower extremities, the result of the toxic effect of alcohol. It was then found that an ulcerated proliferation extended from the first molar along both sides of the jaw and the covering thereof, the muco-periosteal covering of the jaw being involved, which passed back to the anterior faucial pillar and involved a portion of the base of the tongue. A portion of this proliferation was removed and sent to Dr. Van Cott, who promptly reported that it was a rapidly growing epithelial carcinoma. The patient was sent to the Brooklyn Hospital for operation.

Dr. Fowler first performed a preliminary tracheotomy, after the manner of Trendelenburg. An incision was made near the left angle of the mouth straight down to a point below the border of the bone. It was then carried to the angle of the jaw and then up to the lobe of the ear. A flap was dissected back which consisted only of the skin and subcutaneous fat and connective tissue, and the cavity of the mouth was entered by carrying the incision through the mucous membrane directly back from the angle of the mouth to the faucial pillar. The bone was sawn across, and the incision in the mucous membrane was carried across the faucial pillar and curved upward toward the roof of the mouth and thence down to the velum pendulum palati and internal pterygoid.

The muscle was cut across and the temporal muscle released from the coronoid process. The neck was then sawn across on a level with the sigmoid notch and the specimen presented was removed, together with a portion of the floor of the mouth, a piece of the tongue, the faucial pillar, and the contents of the submaxillary triangle, consisting of lymphatic gland tissue and the submaxillary salivary gland. These were all taken away in one mass. The incision was then extended down so as to include a mass of enlarged lymphatic glands at the edge of the sterno-mastoid muscle. In closing the wound the cut edge of the mucous membrane of the cheek was drawn over to the divided edge of the velum, and then the external wound was closed, leaving a small opening for drainage. The Trendelenburg tampon cannular was then removed and an ordinary tracheotomy tube was substituted. The usual absorption dressings were applied.

The case is interesting from the facility with which the operation was performed, and the absence of the usual anxiety on the part of the surgeon in keeping the air passages free from blood. The procedure, as here carried out, has shown itself to be incomparably the very best method. It was presented by the doctor with the hope that this method of operation will become more popular than it has been in the past. In the after treatment of these cases, Dr. Fowler stated that it was his habit to leave the packing in from twenty-four to forty-eight hours and then to remove it entirely, disinfect the raw surfaces with five per cent. solution of chloride of zinc, and tampon with plain gauze wrung out of the same solution. After two or three days of this dressing all packing is abandoned, and the patient is fed upon sterilized fluid diet, care being taken to wash out the cavity of the mouth with a solution of permanganate of potash at each time of feeding. The complication to be dreaded most in this class of cases is the supervention of septic pneumonia or bronchitis. Septic foci are apt to develop in the lungs both from the micro-organisms of the mouth itself, and from those which may be carried in with the food or find entrance in the inspired air.

By the use of chloride of zinc solution and a careful cleansing after each time of eating, this can generally be avoided.

CARBUNCLE EXCISED WITH THE THERMO-CAUTERY.

The history of a case of carbuncle removed by thermo-cautery by Dr. Fowler.

The subject of this operation, a man seventy years of age, had been a restaurant keeper for many years. About two weeks before coming under observation, he noticed what he thought was an ordinary boil on the back of his neck. None but home remedies were applied, these consisting chiefly of soap plasters and flaxseed meal cataplasms. The pain became almost intolerable; his appetite failed, and he was finally compelled to take to his bed. Dr. Burlingham saw him and sent him into the Brooklyn Hospital for treatment, where he came under Dr. Fowler's observation. Upon examination there was found a thick, infiltrated purplish discoloration, of the size of the palm of an adult hand, enclosing an area of innumerable foci of suppuration, occupying the region of the neck in the neighborhood of the upper two cervical vertebrae, and from thence encroaching upon the occipital region.

The hair was shaved from the neighborhood and the patient

taken to the operating room. No anesthetic was employed. With the heated thermo-cautery, the entire mass was circumscribed by an incision extending through the skin and well into the subcutaneous tissue. The enclosed area was divided into two parts by a vertical cut with the cautery knife, and each one of these dissected out with the same instrument. Very little pain was complained of during the entire operation.

Following the removal of the carbuncle mass, incisions were made through the surrounding infiltrated tissues, and extending in depth well into the subcutaneous tissue. Considerable pus was found beyond the area of the spongy-like mass which composed the carbuncle proper. Each one of the radiating incisions was thoroughly curetted and pure carbolic acid applied. The parts were then dressed with a solution of carbolic acid and glycerin, one to five. The hemorrhage was very slight. Copious dressing, consisting of compresses wrung out of bi-chloride solution were next applied and held in place by bandages which included the head and neck, and both shoulders for greater security. The patient was taken to his bed, suffered very little shock, was ordered a nutritious diet with stimulants, and has been entirely free from pain ever since.

The object of using the cautery was first, a desire to prevent the patient from suffering any more hemorrhage than was absolutely necessary. Second, the antiseptic effect of the cautery upon the intensely infected structures. The incision through the skin at the periphery gave rise to rather more pain than the incision by the cautery knife into the carbuncle itself. In fact most of the areas through which the cautery knife passed were almost absolutely anesthetic after the first cut was made and even the latter, except where it approached closely upon real living tissues, gave rise to comparatively little pain.

This is the first attempt known to the doctor to excise a carbuncle entirely with the cautery knife.

Meeting of January 16, 1896.

CARCINOMA OF UTERUS

Dr. Wackerhagen presented a specimen of Carcinoma of Uterus with the following history of the case:

Mrs. K., aged fifty-four years, mother of four children (one abortion fourteen years ago), consulted me at my office, by the advice of her physician, on the 17th of last March. She had been regular in menstruation up to her forty-sixth year; after this time she suffered pain in the region of the uterus and ovaries, with severe hemorrhages at irregular times.

Upon digital examination I found the uterus, body and cervix, much enlarged, the cervix fixed, the body movable. There was also a thickened and hard feeling to the upper walls of the vagina, anterior and posterior. During the examination the hemorrhage and offensive discharge were profuse, the odor intolerable. I advised total extirpation, which was performed on the 23d of March, 1895. There was nothing worthy of note after the opera-

tion, neither after the first change of dressing on the 27th, until the second dressing on the 30th of March, when upon removing the gauze I was saluted by a gush of urine from the vagina. I should here state that I removed with the uterus the diseased portions of the vagina, anterior and posterior. In dissecting the anterior portion, the disease being so close to the bladder wall, the organ was in great danger, but it was not opened at the time of the operation.

At the second dressing mentioned above, a drainage tube was introduced up to the opening in the bladder and packed around with iodoform gauze. Through the drainage tube the urine escaped, and the parts healed nicely excepting the opening in the bladder which did not show any disposition to contract, although she passed considerable urine by the urethra. This condition continued after the dome of the vagina had healed, the last suture being removed about the third week. On the 12th of July I applied the Paquelin cautery to the edges of the bladder opening, which was about the size of a No. 33 sound (French). After two days and for about a week, the urine was passed almost entirely by the urethra, but the discharge again returned through the vagina. This was, however, to a great extent controlled by the introduction of a tampon of iodoform gauze, made in the shape of a ball, about the size of an English walnut. On the 7th of October I performed the usual operation for vesico-vaginal fistula. I think this operation would have proved successful had not the patient become unmanageable on the third day and refused further catheterization. At the end of a week the urine commenced again to pass by the vagina. Upon examination, two weeks later, it was found that more than half the opening had united.

The patient refusing further operative procedure, we again resorted to the gauze tampon which keeps her comparatively comfortable night and day, the opening is contracting more and more, and it is hoped that an occasional slight application of the Paquelin cautery will complete the case. I would also state that I am unable to detect any return of the disease. The report of the microscopist, Dr. Seymour, is herewith attached.

Macroscopically considered, the first strikingly abnormal feature is the increase in the size of the organ and the thickness of its walls. The greatest transverse measurement is $2\frac{3}{4}$ inches; length, $3\frac{1}{4}$ inches; antero-posterior, 2 inches; thickness of uterine wall, $\frac{7}{8}$ inch. The uterine muscle is pale, firm, and resisting. Noticeable dilatation of the uterine artery is apparent, especially in the middle and lower zones. The picture below the cervical junction is one of malignancy, and here the structures have become involved in a necrotic process, which has slowly destroyed a large portion of the part to the fornix vaginæ. The vaginal walls in this neighborhood are thickened and exceedingly firm.

Sections have been made and microscopically examined including portions of the body, necrotic cervix, and vaginal walls. In the upper zones of the body no malignancy could be detected, while the fungating cervix, lower zone, and upper vaginal walls show undoubted carcinoma.

HISTORICAL DEPARTMENT.

S. FLEET SPEIR, M.D.

The choosers of the slain have been busy in our ranks of late, and many brave souls have passed to Valhalla. None among the slaying number have gone from higher fame or greater usefulness, or left behind more sorrowing and regret, than Dr. S. Fleet Speir. Indeed, it is impossible for an old resident of Brooklyn to think of our city without him. His was a striking figure that all will miss. His manly beauty and gracious bearing were irresistible to all who came within the charmed circle of his personality.

Dr. S. Fleet Speir was born in Brooklyn, April 9, 1838. His father, Robert Speir, was a successful New York merchant, who retired from business in 1856. His mother was Hannah Fleet, daughter of Samuel Fleet, who came to Brooklyn from Suffolk County, Long Island, in 1819. Samuel Fleet was a descendant in the fifth generation of Captain Thomas Fleet, the American ancestor of the Fleet family. He settled at Northport, near Huntington, about the year 1650; the family name was originally Fleetwood; the latter part of the name was dropped by Thomas when he arrived in this country. His brother, Sir William Fleetwood, was a man of prominence and influence under the Protectorate, and was married to a daughter of Oliver Cromwell. It was a line of sturdy and distinguished ancestors that handed their qualities down to Dr. Speir. The doctor's education began at the Polytechnic Institute, and was continued under the private tutorage of Professor Benjamin Dwight. In 1857 he entered the medical department of the University of New York City, graduating in 1861 with high honors, obtaining the Mott gold medal and the Van Buren prize. He also received the Wood prize from Bellevue Hospital. After leaving the university he spent eighteen months abroad, continuing his studies in the prominent European cities. Returning, he brought with him a knowledge of the use of the plaster-of-Paris splints, which at that time was just attracting attention in Europe. He made good use of these splints in the Union service, when in 1862, he chartered two boats at the request of the Sanitary Commission, and with three assistants,

went to the front with the Army of the Potomac. In 1865, he again went abroad for a short time to perfect himself in the departments of ophthalmology and otology. Soon after his return from Europe, he became interested in a number of cases of jaundice, which caused him to arrive at opinions at variance with the accepted pathology of this disease. For a monograph on the pathology of jaundice, he was awarded by the American Medical Association, in 1864, a gold medal. In 1871, he contributed, through the *Medical Gazette* of New York, an interesting series of papers on the "Use of the Microscope in the Differential Diagnosis of Morbid Growths," with a new method of determining the diagnosis, prognosis, and treatment of cancers and tumors. He bestowed much study and careful research on these papers, and they attracted much interest in the profession. In this same year (1871), he introduced "a new method of arresting surgical hemorrhage by the artery constrictor." At this time arterial hemorrhage was arrested by ligature, acupressure, and torsion.

The new method was designed for the instantaneous closure of arteries without the use of ligature or other foreign substance. It combined the advantage of each of the old methods, and this method of procedure has been embodied in the surgical works of Professors Gross, Hamilton, and Bryant.

Dr. Speir held the position (1864-1865) of Demonstrator of Anatomy in the Long Island College Hospital; was physician, curator, microscopist, and surgeon to the Brooklyn Hospital; surgeon to the tumor and cancer department of the Brooklyn Dispensary, and was consulting surgeon, after nearly thirty years of most distinguished surgical services, in the Brooklyn Hospital. Outside of his professional work, arduous and diversified as it was, he had a field of pleasure and usefulness almost as varied and extended. It was Dr. Speir who originated the Seaside Home for Children, the very essence of intelligent charity. He founded the Helping Hand Dispensary, and his enlightened spirit found its way into many charitable institutions of the city. The doctor loved nature and all its sentient things. He loved the bending sky which gave its tone to the throbbing and ever restless sea. He loved flowers, and cultivated them in profusion. He loved the vigor and excitement of the hunt; he was at home in the fields or on the wave. In the open air his nature gave itself unrestrained freedom. At his home in Bensonhurst, looking upon Gravesend Bay, he had collected all the animate and inanimate things he most loved; with them he found relaxation and rest.

He was the organizer of the Robins Island Club, which was the resort of many of Brooklyn's famous men; for eleven years past he has been its president. He was a member of the Hamilton, Brooklyn, and Crescent clubs. In 1869, Dr. Speir married Francis S., the beautiful daughter of Peter A. Hageman of New York City. The doctor had many sorrows; most of all the sudden death of his son, to whom he was devotedly attached; and his child daughter, whose death, with that of his son, cast a shadow on his heart that never was lifted. He leaves an invalid wife, and a daughter, who was his constant attendant until he died.

Here appended are the sentiments of the hospital staff of the Brooklyn Hospital regarding Dr. Speir. Your committee present the same as their own expression of thought and feeling.

There are times in nations, in society, and among friends, when the essential harmony of the universe seems broken, and a sense of primal chaos rushes on the soul.

A suggestion of this feeling must have come to each one of us upon hearing of the death of our friend and colleague, Dr. S. Fleet Speir.

He was one upon whom should have descended, by the divine right of inheritance, long life and prosperity, father and grandfather having lived beyond the allotted age of man. Long life has always been associated in our minds with Dr. Speir. Not until six months ago did the shadows come, or symptoms warning of danger. It took a long time for the warning to establish in the mind a settled conviction. Through all the trying weeks that came, one by one killing hope, his courage never faltered. Even in the last days when all knew that death was waiting, a glint of pleasant words would pass, or a joke, well above the sadness of the room. Without warning, the final blow came; hemorrhage quickly depleted his strength beyond reaction, followed by the tired restlessness of exhaustion—coma—and the end.

It is fitting for us who have been his friends so long, and his associates so many years, to give expression to our love and respect for his memory. It is a pleasant memory. He was a man who always gave the impression of being at the top of his condition. He was always the cheerful and genial companion. His personal atmosphere had in it a sunny glow, when we knew the cares and sorrows of life had found quarters in his heart.

As the years came, which should have been laden with the rewards of a well-spent life, trouble darkened. He was indeed a man of sorrows, and acquainted with grief. He did not wear his heart on his sleeve or show his feelings. It was in the sickroom where his sunny nature was most appreciated. Few physicians have carried more hope and comfort to their patients than he. In his practice his mind worked with a kind of intuition—a sort of rapid mental adjustment of facts—that brought him at once a conclusion, which he seldom changed by after-consideration.

His surgical success was very great, tempered always by a love of therapeutics, which inclined him to make his first efforts those of the physician. His desire was to compass the whole field of medicine and surgery—it is recent time since he gave way to the specialist. He had confidence in him-

self, unbounded courage, and untiring energy. Added to all, he had a genius for making friends. He won them as easily as nature does, as the flowers do, as a smiling landscape does. This capacity of attracting so many to him was the true secret of his success, a success that at one period of his career was phenomenal, quite beyond anything that had occurred in Brooklyn. It was a success in which his friends took as active an interest as he himself did. His faults were temperamental, which his good nature and gracious ways made it easy for every one to forgive. He had a strong religious conviction, which came to him when he was very young and remained firmly with him through life, though the exactions of his profession made it difficult to give to the world the outward expression of his inbiding faith. Can you not see him? That fine organization, that genial smile, his courteous bearing, and his warm hospitality. A brave heart has gone while yet in the prime of years and usefulness. It may be best, who knows? We drop from mystery into a world of wonder, then a pulsation of time we call years, and we pass into mystery again. We have hope and live by faith, and we take courage and believe.

DR. ROBERT ORMISTON,	} Committee.
DR. W. H. BATES,	
DR. EDWARD W. WRIGHT,	

— ♦♦ —

LOUIS CONRAD, M.D.

Doctor Louis Conrad died at his residence, 136 South Ninth street, on January 25th, 1895, of multiple sarcoma. He was sick for about one year, able to go about for eight months; the last four months he was confined to his bed. He suffered severely through many days and nights but with a patience which was remarkable.

Doctor Conrad was born in Metuchen, N. J., on November 6th, 1857, of German parents, where he was educated in the public schools. He came to Brooklyn in 1871 and continued his education at the Long Island Business College. He commenced his business career as a druggist about January 1873. He graduated from the College of Pharmacy of the City of New York, in 1875. He continued in the drug business until 1892.

Dr. Conrad was an ambitious man. His desire was to go higher, and, amid the hardships of an active business, he commenced the study of medicine and graduated as an honor man in the Class of '87 from the University of the City of New York. He was guided in his medical studies by Drs. A. L. and H. P. Loomis. He gave up the drug business in 1892 and commenced the active practice of medicine in that year. Dr. Conrad's career was brief. He had the foundation of a good doctor, a man of studious habits, a reasoner, and one of good

judgment : one who would have been a shining light in our profession had he been permitted to continue.

He married Miss Lillian Tucker, who, with two children, Arline and Ethel, survive him.

He joined the Kings County Society, 1893. He was also a member of the Long Island Medical Society, also of the following organizations : Hyatt Lodge F. & A. M., DeLong Council, R. A., Knights of St. John and Malta, the Hanover Club, and the Seawanhaka Boat Club.

Dr. Conrad was a man who is missed by many, one who has done some good in the world : missed by patients who honored him : missed by friends who respected him, and a family who loved him. May his life be emulated by young men.

JAMES W. FLEMING.

...

JENNER.

The near approach of the date (May 14, 1896) when a century will have elapsed since Jenner's famous and decisive experiment in vaccination was performed has, as already stated, led the National Health Society of Russia to organize an exhibition of objects which relate to the great discovery and its author.

Prizes of considerable value are offered for the best work on the subject of vaccination, and the opportunity is being taken to collect and publish materials for histories of its practise in Russia and Western Europe.

Jenner's works are to be translated into and published in Russian : also his biography accompanied with a portrait : and a commemorative meeting will be held on the day of the centenary.

"In Bristol a subscription has been opened to purchase the famous collection of Jenner relics formed by Mr. Mockler of Wotton-under-Edge, shown by him in the Bristol exhibition of 1893, and again in London last year, so as to secure its retention in the museum there or some other public institution. It would seem that this most valuable collection of diplomas, documents, manuscripts, printed works, portraits, and objects personal to the illustrious man was offered to the council of the Royal College of Physicians, but declined for want of accommodation. It should not be left to the citizens and members of the profession in Gloucestershire to be the sole contributors to what should be a national object. It would be a national disgrace were the col-

lection to be allowed to be dispersed or removed to a foreign country."—*Brit. Med. Jour.*, October 5, 1895, p. 854.

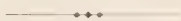
It is proposed to hold in connection with the coming Vaccination Centennial, a loan exhibition of objects of interest in connection with the history of Jenner, as bearing on the subject of vaccination. Such as books, pamphlets, pictures, portraits, medals, etc. Those owning such objects of interest are requested to communicate with Dr. Jos. H. Hunt, 1085 Bedford avenue.

The picture at the back of this number of *THE JOURNAL*, is one of a series of caricatures published by the Anti vaccination Society in London, during the early days of opposition and which the ignorant and prejudiced have never ceased to wage against the Jennerian method of protection from smallpox.

They resorted to all sorts of methods of opposing the practice of vaccination; numerous pamphlets, and even books being written against it; but probably one of the most effective weapons then, as now, was the making the subject ridiculous by means of jokes and pictures.

This is No. 15 of a series of colored prints, another of which represented Jenner riding on a cow.

Dr. Mosely, physician to Chelsea Hospital and to the prime minister was the great opponent of Jenner. He wrote a book having for its title "*Lues Bovilla*," and was prefaced with these sacred words: "Father, forgive them; they know not what they do."



MISCELLANEOUS.



DEPARTMENT OF HEALTH, BROOKLYN, N. Y.



CIRCULAR OF INFORMATION FOR CONSUMPTIVES AND THOSE HAVING THE CARE OF THEM.



Consumption is a dangerous, infectious, communicable disease, and can be largely prevented by simple and easy means of cleanliness on the part of those afflicted, and those having the care of them. It is transmitted, in the vast majority of cases, from the sick to the healthy by means of the sputum or expectoration of those afflicted with the disease. It should be remembered that the dangerous element is the expectoration of the consumptive.

and that if this is carefully collected and destroyed before it becomes dry, little danger is to be feared.

The expectoration should be received, if the patient is confined to the house, into cups containing carbolic acid (one part of the acid to twenty parts of water); or, if the patient is up and about, on pieces of cloth, which should be saved and burned at the first opportunity. This precaution is as necessary for the consumptive as for those about him, as many cases would get well if they would avoid reinfecting themselves.

Consumptives should not spit on the sidewalks or in public conveyances, or in places of public congregation. Cases of consumption should be reported to the Health Department, not with a view of quarantining or otherwise interfering with them, but that the department may place in their hands simple instructions to prevent their communicating the disease to those around them, and to assist in their own recovery.

Apartments which have been occupied by consumptives should not be occupied by others until they have been renovated. They should be cleaned, scrubbed, whitewashed, papered, or painted, as the case may be, before they are again occupied.

Beddings, carpets, rugs, and clothing used by consumptives should be disinfected, preferably by the Health Department.

Z. TAYLOR EMERY, M.D.,

Commissioner of Health.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.

THE YEAR-BOOK OF TREATMENT FOR 1896. Philadelphia: Lea Brothers & Co., 1896. Pp. 476.

The "Year-book," of which this is the twelfth issue, is too well known to need more than a mention. The departments of medicine are under the charge of experts, and the references are such as will prove of great value to the busy practitioner in difficult and obscure cases.

COCA AND ITS THERAPEUTIC APPLICATION. By Angelo Mariani, with illustrations. Third edition. New York: J. N. Jaros, 1896. Pp. 77.

In this little book, M. Mariani has given a concise and most interesting account of coca, dividing the subject into five parts: (1) Its botany, its culture, and the methods employed in gathering it. (2) Its history, properties, and

uses. (3) The physiological researches made with it, a special chapter being devoted to cocaine. (4) Its therapeutic application. (5) General conclusions and explanations regarding the different preparations manufactured by M. Mariani, such as Vin Mariani, Elixir Mariani, Pâte Mariani, Thé Mariani, Pastilles Mariani, based on observations of American and European physicians. Numerous illustrations are given of the plant in all the stages of its growth, together with microscopical sections of its different parts.

WEIR'S INDEX TO THE MEDICAL PRESS. New York: Frank Weir & Co., Publishers, \$3.00 per annum.

This journal will review monthly the entire medical press of the United States and Canada, including, in addition to the published transactions of the various national and State Medical Societies, the current number of every important medical periodical published in the two countries. The result of its labors will be presented in the form of a monthly magazine of from 112 to 128 pages.

The publishers of the Index will fill all orders for indexed publications or text-books, and the services of their staff may be availed of by physicians desiring to acquaint themselves with the bibliography of any particular subject or case.

JANUS.—Janus is the title of a new journal, which is to be an International Archives for the History of Medicine and Medical Geography. In the circular announcing this new journal, whose home is to be in Amsterdam, the editors speak of the necessity for the inauguration of this enterprise in the following words:

While all branches of medical science have their organs in the principal civilized countries, there does not yet exist in the whole of Europe a review on the history and geography of medicine. It seems to us the time has come to remedy this state of things. It is to be hoped that those who apply themselves to the study of history are no longer obliged to leave it to chance to obtain a rare or interesting article. The history of medicine also has a right to a review of its own, but the undersigned are very well convinced that none of all the civilized countries alone would be able to feed historical archives of that kind and to make them of a first rate order. This is, however, as little desirable as necessary. The history of medicine is quite a particular study, and in the first place international and polyglot, as well as ethnography, which already possesses an international review of its own. With a view to found such a periodical, we ask for the History of Medicine the assistance and collaboration of the most eminent men of science in all civilized countries. We wish to found an international review in which each author can choose, at liberty, one of the most extensively used languages, as English, French, and German. A small country like Holland seems to us best qualified for this enterprise.

We are convinced that the idea of founding international archives for the history of medicine and medical geography will obtain the approbation of the most eminent scientific men all over the world. Therefore we beg you also to grant us your most valuable assistance, and we are bold enough to express the well-founded hope soon to place your esteemed name among the contributors of the new archives, to which we intend giving the well-known name

"Janus." International Archives for the History of Medicine and Medical Geography.

We beg you also to send us as soon as possible the title of the articles or memoirs which you wish to have inserted into "Janus," that we may announce them in the same prospectus, and, if you can do so, also to send us as soon as possible a work which is fit to appear in one of the first editions.

The articles may be written in English, in French, or in German, and those in English, by preference, can be sent to Dr. R. C. Creighton, M.A., 32 Great Ormond street, W. E. London; Sir Jos. Fayrer, surgeon-general, Baronet K.C.S.I., M.D., F.R.S., 53 Wimpole street, London; Dr. J. F. Payne, F.R.C.P., 78 Wimpole street, W. London, or immediately to Dr. H. F. A. Peijpers, who will act as a secretary.

The editors are Dr. Ch. Creighton, M.A., and Sir Jos. Fayrer, London; Dr. George M. Sternberg, Surgeon-general of the Army U. S., Washington; Dr. Julius Petersen, Copenhagen, and others.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONERS' INDEX FOR 1896. Edited by a corps of thirty-seven department editors—European and American—specialists in their several departments. 728 octavo pages. Illustrated. \$2.75. E. B. Treat, Publisher, 5 Cooper Union, New York.

The Annual is now in its fourteenth year, and is an admirable recapitulation of the year's progress in medicine. It contains numerous illustrations, many being in colors. As its arrangement is alphabetical, and as it is thoroughly indexed, it is an excellent reference book.

Part I. comprises the new remedies, together with an extended review of the therapeutic progress of the year.

Part II. includes a number of recent articles by eminent authorities: "How to Determine the Parasite of Malaria"; "The Diagnosis of Toothache and Neuralgia"; "The Remedial Value of Cycling"; "Sensory Distribution of Spinal Nerve-roots"; "Angio Neurosis"; "Life Insurance"; and "Röntgen's Method of Shadow Photography, illustrated."

Part III., comprising the major portion of the book, is given to the consideration of new treatment. It covers five hundred pages, and is a retrospect of the year's medical and surgical progress.

The fourth, and last part is made up of miscellaneous articles, such as "Recent Advances in Sanitary Science," "New Inventions in Instruments and Appliances"; "Books of the Year," etc.

DIET IN SICKNESS AND IN HEALTH. By Mrs. Ernest Hart, author of "The Micro-metric Measurements of the Blood Corpuscles," etc., with an Introduction by Sir Henry Thompson. London: The Scientific Press. Philadelphia: W. B. Saunders, 1895. Pp. 219.

The author in this volume deals with foods and their digestion, and gives dietaries for various diseases, diabetes receiving special attention.



S. Hunt Speer M.D.

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

THE TREATMENT OF CYSTITIS.

BY L. GRANT BALDWIN, M.D.

Gynecologist to St. Peter's Hospital, Brooklyn.

At this time when our medical journals and society reports are teeming with descriptions of brilliant operations and other surgical procedures, I may be asking much of you to give your attention to the consideration of a subject that does not involve a new method of hysterectomy by one or other channel, or not even a new (?) operation on the perineum.

The administration of drugs is oftentimes unsatisfactory and disappointing, but I can but feel sure that if we, as gynecologists, would stop occasionally and consider the medical treatment of our cases, rather than to at once advise surgical measures, our remote results would be better in many conditions. A well-known work on antiseptic surgery claims that now the healing of wounds rests with the surgeon: literally no greater error could creep into our minds.

All will agree, I think, that the suffering attendant upon in-

inflammatory conditions of the bladder is extreme. Also that it is one of the most common of the ailments that cause a woman to consult a specialist, and that, as a rule, according to the textbooks, the treatment is unsatisfactory, and the prognosis as to cure is to be guarded. These facts make the subject worthy of our consideration.

I purposely consider cystitis only as to its treatment, as a complete consideration of the subject is too broad a one for discussion at a single meeting of this society.

I have nothing new to relate as to the treatment even, but hope by calling attention to a few well-known facts to elicit your attention.

Given then a case of cystitis, acute or chronic, and having excluded in the diagnosis as causative factors new growths of one sort and another, foreign bodies and tuberculosis, what shall be done for it?

If the case is an acute one, example an operative case where a catheter has been used in an uncleanly manner, I have found that relief can be obtained in twelve hours and often in a much shorter time by the administration of sandalwood oil, together with benzoic acid, and a cure is practically obtained in from two days to a week. I do not find it necessary to make any changes in the diet nor to use opium in any form for the pain. In fact, so satisfactory have I found these remedies that I do not often find it necessary to use any other means of treatment whatever.

The sandalwood oil is best given in capsules, five drops every hour or ten drops every two hours, until the tenesmus and almost constant desire to urinate is removed, which will usually be after two or three doses, then the interval may be lengthened, or better, the doses lessened as it is rapidly absorbed and eliminated, until at the end of a week it may be discontinued altogether. The benzoic acid is best given combined with biborate of soda, as

R	Sodii bborat.	.	.	.	.	.	gr. xlv.
	Acid. benzoic.	.	.	.	.	.	gr. xxxv.
	Aquæ	.	.	.	.	.	3 iii.

of this two teaspoonfuls should be given every three or four hours in water till the urine is acid in reaction as shown by litmus.

In the chronic form of cystitis my treatment is much the same with irrigation of the bladder added to the sandalwood oil, and the benzoic acid may or may not be given. It is hardly necessary to say anything about the care necessary in washing the

inflamed bladder, and still it may not be out of place. The bladder naturally is filled very slowly and it should be our aim to imitate nature in this respect, using the utmost gentleness.

The very simple apparatus of Dr. Skene's is the only entirely satisfactory one I have seen; this, as you all know, consists of a small glass funnel with rubber tube and catheter attachment. The utmost care must be taken not to fill the bladder too full or more harm than good will result. Oftentimes one ounce will be all that can be borne without great pain. It matters but little what solution is used so long as it is mild and soothing.

Borax or boric acid is as good as any. I would never use the strong solutions of silver nitrate and nitric acid that so many of our text-books advocate.

An excellent soothing application to leave in the bladder is one of iodoform and raw linseed oil, as suggested by Dr. Skene.

In many cases where inflammation is largely at the neck of the bladder and in the deep urethra, I have obtained much benefit by dilating the urethra either with the ordinary uterine dilators or with those made especially for the purpose, as those of Kelly's pattern.

This can be done under the anesthetic effect of cocaine, and I have never seen anything but good result from it.

There are probably cases of cystitis that will not be relieved by this method of treatment, but I believe they are few. A cystotomy with drainage or Emmet's buttonhole would then be in order.

In a series of over fifty cases I have not found it necessary to use any other treatment, either medicinal, dietetic or hygienic.

I should like to read the histories of two typical cases:

Mrs. S., age twenty-eight years, married six years, mother of two children, the youngest sixteen months old.

Consulted me September 4, 1893. She complained *only* of vesical symptoms. Menses regular and no pain accompanying. Has a constant desire to pass water and is relieved for only a few minutes and never goes more than half an hour without urinating in the daytime, and is obliged to rise five or six times every night. Patient pale and cachectic in appearance. Urine alkaline and loaded with pus and epithelium and shreds of mucous membrane. So great was the difficulty that she was obliged when leaving her home to plan ahead for a stopping-place every half hour. Put on sandalwood oil, ten drops every two hours and washed bladder.

September 8th, four days from first visit, has been taking sandalwood oil, ten drops every two hours, urine looks much clearer; constant desire to urinate has disappeared; was obliged to rise only twice last night. Bladder washed.

September 11th. Improvement continues.

September 13th. Practically well. Asked patient to return once more. Bladder irrigated again.

CASE II.—Mrs. L., age thirty years, married eleven years, mother of one child nine years old, and no abortions or miscarriage. Has complained since shortly after marriage. Except for vesical symptoms is perfectly well. Complains of burning in urethra and a constant desire to urinate, and the act is followed by a sharp, agonizing pain. Has been in bed two weeks. This patient has been ill for fully ten years, with only short intervals of comparative ease. The inflammation in her case was chiefly at the neck of the bladder and deep urethra.

The relief from pain was prompt and continuous after the administration of the santal.

• The urine in this case was of the characteristic kind.

She was much benefited by judicious dilation of the neck of the bladder under cocaine, after which I applied fifty per cent. glycerite of tannin. On account of the location of the trouble her treatment to a full cure required eight weeks, but she has continued well.

In conclusion I wish simply to add, that so confident have I become in this method of treating inflammations of the bladder that I do not hesitate to promise a cure when I am sure of the diagnosis.

(To be continued.)



PREVENTION OF SMALLPOX.

Dr. Russell, Health Officer, of Glasgow, says: "Apart from their possibly sinister influence, hospitals can at best play only the part of an auxiliary in the campaign against smallpox. The first line of defense is primary vaccination." Dr. Russell advises the employment of houses of reception for persons who have been exposed to infection and for cases of a suspicious character. "To be efficient against smallpox," he says, "the inspector must combine the keen scent of the pointer, the wisdom of the serpent, and the commonsense of humankind."

THE TETANUS BACILLUS.

J. M. VAN COTT, JR., M.D.

In an article on nervous diseases a distinguished English medical writer says of tetanus, "We now come to a dangerous and happily rare neurosis, accompanied with most severe tonic spasms. Its history dates back to classical times." It is described by Hippocrates and the late classical writers. A very great deal has been written upon the phenomena of the disease, its semeiology, course, and prognosis, and indeed, concerning its cause. But from the times of the ancient Greeks and Romans, to the latter part of the present century, the medical fraternity has been in ignorance of the true nature of tetanus.

This, like many another moot-point in medicine is now no longer open to debate, but is, with the others, an established fact, crystalized into a certainty by the genius and indomitable courage of men whose lives have been devoted to research work, of a kind that is fast transforming the healing art from empiricism into a science.

I well remember, when a student in medical college, of hearing our professor of operative surgery prognosticate that the time would come when lockjaw would be proven a germ disease. It was scarcely a year after that the first announcement was made in Germany (1884) by Nicolaier, that he had produced tetanus in mice and rabbits by subcutaneous inoculation of garden earth; and that the pus from these animals was capable of producing tetanus in other mice and rabbits when inoculated into them. Carl and Ratner in 1884, and Rosenbach in 1886, produced tetanus in animals by inoculating discharges from wounds of men suffering with the disease, thus proving the infectious nature of human tetanus. None of these gentlemen, however, succeeded in producing the germ in pure culture. This was left to a young Japanese nobleman (Kitasato), whose exquisite technic won for him the distinction. He succeeded first in 1889, and has practically fixed the standard of laboratory methods of research upon this particular organism.

Having recovered the germ in pure culture, it did not take long to determine its common biologic properties, and the important fact that it produces true tetanus even when inoculated in

very small quantities ; a fact interesting because we now know that tetanized wounds may entirely heal and be forgotten before other symptoms of the disease make their appearance.

Nicolaier's tetanus bacillus is found in the earth the world over in association with other pathogenic and non-pathogenic organisms. In some parts of the globe it is apparently much more virulent than in others ; and the garden earth in these districts is fairly teeming with the germ.

Morphologically, it is a fine, slender bacillus, somewhat longer and a little thicker than Koch's bacillus of mouse septicemia, the latter being 0.8-1.0 m. long and 0.1-0.2 m. thick, and it has rounded ends.

It is moderately motile, and grows singly or in long threads in culture. Motility is increased by moderate heat. It is a spore-forming organism ; the spores occurring at the end of the rod, giving to it the shape of a drumstick, a fact which has also caused it to be called the drumstick bacillus. During sporulation it is not motile.

A most exquisite anaërobe, it grows on gelatine, agar, and blood serum, also bouillon ; the media having a slightly alkaline reaction, and being surrounded with either nitrogen or usually hydrogen. If a high column of agar in a test tube be inoculated with tetanus it will develop in the lower strata of the nutrient medium and not in the upper, thus demonstrating the anaërobic nature of the germ. Gelatin is slowly peptonized with slight gas formation.

The best temperature for cultivation is from 36°-38° C.

Kitasato has shown that addition of 0.1 per cent. of indigo-sodic sulphate to agar very markedly facilitates the cultivation of tetanus, probably due to the remarkable reducing properties of the salt—glucose and blue litmus 1.2-2 per cent. to 5 per cent. by volume. The tetanus bacillus does not grow under the influence of carbonic acid. It may be cultivated through successive generations under proper conditions and with proper care without losing its virulence, although anyone familiar with the matter will attest to the uncertainty of the tetanus cultures in point of their pathogenesis.

The colonies on gelatine appear at first like those of ordinary *B. Subtilis*, viz., have a dense felt-like center with fine fringe in delicate radii. In older colonies the appearance of ordinary mould prevails. Stab cultures in deep strata assume the appear-

ance of a cloudy linear mass, with radiations in all directions, giving to the whole a fuzzy appearance.

Growing to best advantage in a temperature of $36-38^{\circ}$, the colonies first become visible in three to four days, in H., at $18-20^{\circ}$ one week; the lower part of the gelatin is then quite fluid and gas has formed.

The spores: These when dried in a dessicator over H_2SO_4 on silk threads, and then exposed to air and light remain active for some months.

Exposure for one hour at 80° C. does not kill them; five minutes in a steam sterilizer at 100° destroys them absolutely. Exposed to ac. carbolic, five per cent., for five hours, they still live, but die after fifteen hours' exposure in the same solution. Addition of 0.5 per cent. HCl. to this carbolic solution kills them in two hours. $HgCl_2$ $\frac{1}{1000}$ kills them in three hours, and in thirty minutes when HCl 0.5 is added to the same solution.

Pathogenesis: Virulent cultures when inoculated into animals will produce typical tetanic spasms, which are progressive from the site of inoculation in one and a half to two days, with death in three to five days with most fearful convulsions and opisthotonos. This applies to house mice, rabbits, and guinea-pigs. The autopsy shows pus at the point of inoculation and bacilli. When the root of the tail has been selected, isolated germs are sometimes found along the sheath of the sciatic nerve and in the cord, but in general terms they remain local to the site of inoculation. This leads up to a most interesting question, *i.e.*, whether the semeiology of tetanus is resultant upon the mechanical conditions induced by the presence of the germ in other tissues of the animal or upon the invasion of the organs and tissues at large with the products of their retrograde metamorphosis, *i.e.*, their toxins.

The elaborate experiments of Brieger and Wasserman, Tizzoni and Catani, Kitasato, Behring, Bolton, and others, including our own surgeon general, Sternberg, have settled the question beyond a peradventure.

It is now definitely known that there are at least two chemical quantities, tetanin (Brieger) tetano-toxin (Kitasato) which are procured by the usual filtration methods from pure cultures of bacillus tetanus and which have the power of producing typical tetanus in a short time, when inoculated into the tissues of animals in most astonishingly small doses. The $\frac{1}{50000}$ of a grain

of tetano-toxin will, when injected under the skin of a house mouse, produce fatal symptoms in eighteen to thirty-six hours.

The subject upon which I was requested by our president to write, *i.e.*, "The Bacillus Tetani," does not admit of the consideration or the full consideration of the question of a tetanus antitoxin. Suffice it to say, that Behring and others have produced a serum which will, under favorable conditions, cure this disease in animals and man, but as yet this serum has not sufficient concentration to make it practicable; 100 c.c. being the necessary dose for an average man, and ninety dollars the cost of curing an average case.

The indications are all pointing, however, to an early success in producing a serum with a sufficient number of antitoxic units to make it feasible and one of the greatest of blessings to beast and man.

DISCUSSION.

Dr. E. H. Wilson : Dr. Van Cott has told you that the tetanus bacillus is anaerobic, that it will not grow in the presence of oxygen or of atmospheric air containing oxygen. Very many methods have therefore been devised for cultivating this organism. One is by excluding or exhausting the air; another is by substituting hydrogen for the air; another is by putting the culture tubes in contact with some substance which has a strong affinity for oxygen, such as alkaline solutions of pyrogallie acid.

I have here two cultures of the tetanus bacillus made in glucose agar. You have been told about the growth of this bacillus in deep stab cultures. These cultures illustrate that description. The growth is along the distal or deep portion of the puncture line and has lateral offshoots, which give it a feathery, fluffy appearance in the agar. In ordinary atmospheric air the growth would not have taken place so close to the surface as this, but a special method has been employed which accounts for it. These tubes have been grown in an atmosphere of hydrogen in a Novy apparatus.

This apparatus is the device of Dr. F. Novy of the University of Michigan: it is a glass jar which will hold ten or a dozen culture tubes; in the neck are two holes opposite to each other, into which glass tubes are sealed. The stopper is hollow and ground to fit the neck accurately: this stopper has two holes corresponding to the holes in the neck: a glass tube extending to the bottom of the jar is sealed to one of the openings in the stopper. The tubes, either agar, gelatin, or bouillon, are inoculated and placed in the jar, one of the openings is connected with a hydrogen

tank and the other with an aspirating pump. The hydrogen end is closed and the pump exhausts the air, the pump is turned off and the vacuum is replaced by hydrogen. This is done three or four times until a pure hydrogen flame is obtained on ignition. Then the hydrogen end is sealed off and the pump is left open so as to leave a vacuum, then the stopper is turned, effectually keeping out the air. The jar is then placed in the incubator and in twenty-four or forty-eight hours the growth is quite abundant.

You know that no rods are found in the blood or distant organs in cases of tetanus. It has also been found that the blood of an animal dead of tetanus inoculated into another animal will produce tetanus.

We also know that filtered, germ-free cultures of the tetanus bacillus will produce the same symptoms as the active cultures themselves. This proves that some product of the tetanus bacillus is liberated in the blood in one case or in the culture in the other. This poison, which is thus produced, is very unstable, it is destroyed at a temperature of 65° C. for five minutes, or 60° C. for twenty minutes, or 55° C. for 1½ hours. Exposure to sunlight or subjection to long periods in the incubator, at 38° C., will destroy it also. Hydrochloric acid in the proportion of 0.55 per cent. destroys it. Trichloride of iodine, 0.5 per cent. destroys it and cresol in the proportion of one per cent. destroys it in one hour.

From these filtered cultures Brieger, in 1886, isolated a crystalline body, which he termed "tetanin." More recently, Brieger, Fränkel, and Kitasato isolated an albuminous toxic substance as toxalbumen, which they called "tetanotoxin," and which was more potent than the ptomaine. In 1891 Kitasato produced immunity in mice by injecting them with the blood of rabbits, which had been rendered immune by injections of minute quantities of filtered tetanus cultures, to which trichloride of iodine had been added.

In 1891 Cattani and Tizzoni made an elaborate series of investigations in regard to the nature of the antitoxic substance in the blood of immune animals, and they concluded first, that antitoxin exists in the serum of immune animals; second, it is destroyed by exposure to 68° C. for one-half hour; third, that it does not pass through a dialyzing membrane; fourth, that it is destroyed by acids and alkalies; and fifth, that it is an albuminous substance having the nature of an enzyme.

In 1892 Behring published his method of immunizing horses against tetanus.

You are all familiar with the method of immunizing horses against the toxins of diphtheria, and the method is practically the same to secure immunity against tetanus, only one has to go about it with a great deal of circumspection, beginning with very minute doses of attenuated virulence.

A culture of tetanus is made in bouillon of such a strength that $\frac{3}{4}$ c.c. will kill a rabbit in three or four days. To 200 c.c. of this culture he adds .5 per cent. carbolic acid. The horse receives at first 10 c.c. of a mixture containing 0.25 per cent. trichloride of iodine, at the end of eight days the horse gets 20 c.c. of the same mixture; again in eight days the dose is repeated; then, after an interval of three days 30 c.c. of the same mixture. Following this, at an interval of eight days, he gets two injections of 30 c.c., each of a mixture containing one-half the quantity of I Cl_3 (0.175 per cent.). The proportion of the I Cl_3 is then reduced to 0.125 per cent., and two doses of 20 c.c. each are given. Finally the culture fluid is administered in a dose of 0.5 c.c., and this dose is doubled every five days. Before giving the first dose of the culture fluid without the I Cl_3 , the immunizing value of the horse's serum is tested upon mice, and if it falls below one to one hundred, a dose of 0.25 c.c. is given instead of the 0.5 c.c.

It is found that a serum which will protect in the proportion of one to one million, applied to a human being would necessitate a dose of 100 c.c., given in divided doses of 20 c.c., in the twenty-four hours for an adult. For a child sixteen years old, 10 c.c.; for a child under six years old, 5 c.c. And here we come to one of the greatest difficulties in the matter, and that is the quantity which must necessarily be used. Unless we can find a way to concentrate the antitoxic value of the serum, this will prove a great objection to its use. The other objection is that tetanus is not recognized until the onset of the tetanic spasms, which are the outcome of a high degree of toxemia.

Another method of diminishing the virulence of the toxin is in the method of cultivating the organism in a bouillon made from the thymus glands instead of beef bouillon. Thymus bouillon cultures grown in this way have a low degree of virulence and can produce a toxin which is more easily handled than that produced in beef bouillon. By this method of thymus bouillon cultures, Brieger and Ehrlich, in 1892, immunized a series of goats, and from these goats they obtained some very important infor-

mation. It was found that the milk of the goats contained antitoxin in considerable amount. The milk of one goat had an antitoxic power of one in six hundred, and 0.2 c.c. of this milk saved a mouse from sixteen times as fatal dose of a tetanus culture. The milk was found to still contain the antitoxin after the precipitation of the casein.

These are the facts in the case. The discoveries which have been made and which are incorporated here have brought up another question, which is much too wide for discussion here, and I have not attempted to discuss it at all, namely the question of antitoxin.

Behring has gone elaborately into the discussion and shown that tetanus can certainly be cured by the same method as that of diphtheria. When I was in Berlin he told me he could give me enough material to cure absolutely a hospital patient if I would pay ninety dollars, showing that the methods of producing antitoxin for tetanus are extremely elaborate, requiring so much time and expense of material in use of laboratory stock that a cure for each case in a human being would cost ninety dollars.

Catani came to the same results, his material being not so reliable as Behring's. Certain it is that the discovery of tetanotoxin, which is produced as a gold or platinum chloride, the discovery of this salt has paved the way to rendering horses, sheep, and other animals immune to tetanus, and the use of the serum produced in small quantities has resulted in the cure not only of animals, but of human beings in the German hospitals.

(To be continued.)

THE WILLIAM F. JENKS MEMORIAL PRIZE.

The Fourth Triennial Prize of Four Hundred Dollars, under the Deed of Trust of Mrs. Wm. F. Jenks, will be awarded to the author of the best essay on

THE ETIOLOGY AND PATHOLOGY OF DISEASES OF THE ENDOMETRIUM,
INCLUDING THE SEPTIC INFLAMMATIONS OF THE PUERPERIUM.

The essay, which must be typewritten in the English language, or if in a foreign language be accompanied by an English translation, must be sent to the College of Physicians of Philadelphia, Pennsylvania, U. S. A., before January 1, 1898, addressed to Barton Cook Hirst, M.D., Chairman of the William F. Jenks Prize Committee.

SURGICAL TREATMENT OF HEAD INJURIES.

BY F. G. WINTER, M.D.,

Brooklyn, N. Y.

Surgeon to the Eastern District Hospital.

Read before the Brooklyn Medical Society.

Injuries of the head are of great importance from the fact that the brain, which is the great nervous center, and upon the integrity of which life itself depends, is so frequently involved.

The brain and its membranes are subject to inflammation when injured, which is followed by irritation, exudation, swelling, and pressure. The exudate cannot escape through the skull and scalp unless the surgeon afford a means of exit: hence, the frequency of trephining. The pressure, caused by this exudate, may be relieved, to some extent, by the escape of some of the intracranial blood and some of the cerebro-spinal fluid into the spinal canal; but if the pressure increases, the functions of the brain are interfered with and become altered or abolished, while the irritation may cause an exaltation of function.

Great advancement has been made in the surgical treatment of head injuries in the last few years. The localization of function, in different parts of the brain, has been proved only in the last twenty years, while brain surgery founded upon it, practically began only in 1884. Broca in France, Goltz, Fritsch, and Hitzig in Germany, and Ferrier and Horsley in England, have done the principal work in solving this problem, while Macewen and Horsley in England have opened up a new field in head surgery.

Until twelve years ago the skull was considered so dangerous a region that very few surgeons felt competent to invade it. Surgical interference with the brain and its membranes was never attempted, except where compound fracture and serious brain symptoms made it absolutely necessary, and then it was undertaken with great reluctance. The golden rule in head surgery was, at that time, "Never operate on a fracture of the skull unless there are present severe brain symptoms." An exception to this rule was in case of punctured fractures of the skull, which are the most fatal kind. This was due, first to our ignorance of the localizing value of the different parts of the brain, which differ

materially from one another in function, and second, to our ignorance of antiseptic methods. If we follow the teachings of Macewen and Horsley since 1887, we can invade the cranial-cavity with far less danger than formerly.

In all cases where an operation is to be performed on the head, the whole scalp should be shaved, then scrubbed with a stiff brush, soap and hot water; then thoroughly disinfected with a mercuric chloride solution 1-1000; but in case of a compound fracture of the skull great care should be exercised not to allow any of the solution to reach the brain. The weakest bichloride or carbolic acid solutions are to be avoided when the brain is exposed. Adamkiewicz has shown, by experiments upon dogs, that these solutions (1-10,000 of the first and 1-200 of the last) of any antiseptic service, produce injurious effects upon the cerebral substance, particularly when this is wounded. Therefore it becomes necessary to substitute either simple sterilized water, a sterilized normal salt solution (6.5 per cent. solution: Tavel), or, at the most, a 3 per cent. boric acid solution made with sterilized water, for the stronger irrigating fluids (Fowler). Then the scalp should be bathed with ether or alcohol.

The scalp should be freely incised so as to thoroughly expose the bone. If the fracture is a mere linear fissure, it must be carefully disinfected, and if it is impregnated with dirt, or even if a single hair is caught in it the outer table must be chiseled away, turning the fissure into a v shaped groove. The reason for this is, that the danger lies far more in the probable infection than in the mere fissured fracture.

Our recent text-books mention the use of the chisel in head surgery, but none definitely describe its use. In one of our recent works on surgery is a cut showing the manner of holding the chisel in cutting the groove through the skull for the removal of the Gasserian ganglion—the hand grasping the chisel by the handle four or five inches from the end of the blade. In this way, the surgeon has but very little control over the instrument and there is great danger of wounding the dura or driving the chisel into the brain. The chisel is one of the most valuable instruments we have in head surgery and is also the most dangerous. It should be grasped in the hand within an inch of the end of the blade, so that the closed hand will rest on the patient's head and act as a buffer, preventing the instrument from penetrating deeper than is desired. In this way, the operator has it under complete control. The beveled side should be turned

toward the fracture so that the chisel will cut the bone at the same angle as that in which it is held. Many American and English surgeons deprecate the prolonged use of the mallet and chisel, as undoubtedly, shock is increased; but in the writer's opinion, the shock to the great nerve center is not so severe as when the rongeur forceps or the trephine is used.

Those who have never used the chisel on living bone, would be surprised at the ease with which the bone is cut, and at the very light strokes of the rawhide mallet required to drive the sharp, thin-edged instrument through the bone. This instrument is quite a favorite with many of the Continental surgeons.

The practice of replacing the fragments of bone after trephining, or chiseling, has not found general favor, and is now seldom employed, since the results have not been very satisfactory, except in osteoplastic operations, where the scalp and skull-flap are turned back like a trap door. The bone not being detached from the scalp, firm union readily takes place.

The operation of opening the skull, or, of trephining, is at present, practised for the following purposes :

1. For the relief of compression.

- a. By depressed bone, as in comminuted and gunshot fractures.

- b. For removing of clot or checking of hemorrhage.

- c. For evacuating of pus, either from the meningeal cavity or from a deeper abscess.

- d. For the removal of serous effusions, either intraventricular, extracerebral, or œdematous.

2. For removal of foreign bodies.

3. For relief of intercranial irritation, *e. g.*, epilepsy, insanity, etc.

4. For removal of tumors.

5. To compensate for defective development.

6. For making relief openings, for the relief of pain, or for exploration in certain unknown intercranial conditions.

For seventy years previous to the teachings of Macewen and Horsley, the conservative treatment, which consisted of rest, antiphlogistics, sedatives, cold, and watching and waiting until the patient recovered or died, is curiously preceded and followed by a bold and active interference. Pre-historic trephining, which was principally practised as a religious rite, must have been comparatively harmless, judging from the large number of skulls discovered with trephine openings healed before death. Philip

of Nassau was trephined twenty-seven times for epilepsy. They probably discontinued for lack of material.

I shall consider only the first and second objects of trephining as the third, fourth, fifth and sixth conditions are not the result of recent head injuries.

In compound comminuted, or stellate fractures, without depression and brain symptoms, it is often difficult to decide whether an operation is advisable or not; but it is better to be on the safe side and operate, as the operation is almost devoid of danger if antiseptic precautions are taken. In eighty-one cases reported by Wagner, that were treated by primary trephining, the mortality was only 1.23 per cent. while in twelve cases treated secondarily, the mortality was 33.5 per cent. That is to say, later trephining, which should have been done at the time of the accident, caused an initial mortality nearly thirty times as great as simple primary trephining, to say nothing of later dangers.

The following case well illustrates the importance of early interference:

September 18, 1893, Thomas C., age five, was admitted to the Eastern District Hospital, during my service, with a compound comminuted fracture of the right parietal bone, one inch above the ear and a little posterior to the bi-auricular line. There was no depression and no cerebral symptoms. Immediate operation was decided upon, and sufficient sound bone was chiseled away to admit the elevator under the fragments and remove them (five in all). I found a lacerated wound of the dura, three-fourths of an inch long, and also a wound of the brain of about the same length, a small branch of the meningeal artery was wounded and bleeding, a small clot had formed and was constantly increasing in size. Without surgical interference, it would have caused dangerous and probably fatal compression of the brain in a short time. The clot was removed, and a very fine, full-curved, Hagedorn needle, threaded with catgut was passed through the dura at one side of the bleeding vessel and brought out on the other and firmly tied. The wound in the dura was sewed with fine catgut, and the scalp was stitched, except at the most dependent part where a strip of gauze was left in for drainage. The scalp wound, being dressed with sterilized gauze and iodoform, the temperature arose to 103 degrees during the night but gradually fell to normal on the third day. The patient was discharged perfectly well on the twenty-sixth day. At the time of injury,

the bone was evidently driven into the brain, but sprung back into place as soon as the force was relieved.

A blow, sufficiently severe to cause a comminuted fracture of the skull, will nearly always cause serious intracranial injury, and an exploratory operation is commendable, even though the fracture is simple. When severe cerebral symptoms develop soon after a head injury without fracture, an exploratory operation should be performed at once, as it is quite probable that a blood vessel has been ruptured and a blood clot is forming.

Three points should be marked on the scalp and skull, viz.: the place at which the center pin of the trephine is to be applied, and the upper and lower ends of the fissure of Rolando, at points just outside the flap, in order that the fissure may be recognized after the flap has been raised. This is best done with a fine bone drill, passed through the scalp and making a small indentation in the skull.* The flap should be horseshoe-shape, and if possible, the base of the flap should be below, on account of the more favorable blood supply. The flap of periosteum should be raised with the scalp. The hemorrhage is best controlled by seizing the edge of the scalp at the bleeding points with hemostatic forceps. The largest trephine should be used, and the opening enlarged with rongeur forceps, or chisel to any extent required. Before enlarging the opening the dura should be separated from the bone by Horsley's dural separator, two inches or more from the trephine opening. As a rule, the dura should be opened. The additional danger is very slight, while the additional information may be very great. With rare exceptions, if we trephine at all, the brain itself should be examined by sight and touch. The opening in the dura is best made of a semi-circular shape.

If a clot is found, it should be scooped out very gently, and the cavity in which it has lain should be well-washed out with cooled, boiled water. If the artery is still bleeding, a catgut ligature (not chromicized) should be passed through the dura, under the artery, by a semi-circular Haggard needle, and the artery tied. Drainage should be provided, and the wound then treated as usual.

The use of block tin, celluloid, aluminum, silver, or gold disks, placed in the trephine opening to protect the brain, is the kind of protection that does not protect, and they should not be used for the following reasons:

*American Text-book of Surgery.

1st. The time required to cut them to fit the very irregular opening left after an operation.

2d. The great difficulty of fastening the plate securely to the skull, so that moderate blows will not displace it.

3. The liability of blows to cause indentations, which would be permanent in all except the celluloid.

The use of a sheet of gold foil between the dura and brain, to prevent adhesions forming between them with those most deplorable symptoms, that often follow an adherent brain and dura, is very commendable.

If any portion of the dura has been removed, and especially if there is loss of brain substance, there is a marked tendency to proliferation of the cerebral tissue, with danger of a fungus cerebri forming. This may be prevented by taking a piece of the pericranium from the under surface of the scalp, turning the scalp surface downward, and attaching it to the dura by interrupted sutures. The pericranium will very quickly contract adhesions to the dura, and the gap will be closed.

The limits of operative procedure are constantly being enlarged. Once the skull is trephined, we can explore the inner surface of the skull over a wide area, by the dural separator or probe. If the dura has been opened, the finger can be gently inserted between the brain and dura, and the surface of the brain explored for at least an inch all around the opening in the dura. The brain can be readily depressed by the finger or the knife handle, used with gentleness, and the eye can see for an inch beyond the dural opening.

If the opening be toward the base of the brain, the brain may be lifted either with or without the dura, and the base of the skull explored for a considerable distance. The cerebellum can be lifted, and the finger and the eye can reach to the foramen magnum. The sinuses can be safely uncovered and separated from the skull, and the frontal lobe lifted far enough to discover the anterior clinoid process; while laterally, the surface of the petrous bone can be explored. The brain can be punctured almost with impunity, especially if a blunt instrument, like a grooved director, be used, so as not to wound the large vessels, and the ventricles can be tapped. (American Text Book of Surgery.)

Punctured wounds of the brain are extremely dangerous and should be operated upon at once. This is the form of head injury most often overlooked, as the scalp wound is generally very small. If the wound is made with an ice-pick, pocket-knife,

scissors, or other slender object, the point is liable to be broken off in the skull, on a level with the outer table, completely closing the puncture, so that the probe would not reveal it, unless the scalp wound is enlarged so that the skull can be carefully examined with the finger and eye as well. The following case illustrates this point:

In October, 1892, Mr. R. called on me to have a very small scalp wound dressed. He stated that his only reason for calling on a doctor was that the wound continued to bleed, no matter what he applied to it. I learned that he had received the wound while at work in his tailor shop. A former employé had quarreled with him and stabbed him in the head with a pair of tailor's shears. The wound was at the junction of the temporal ridge, and bi-auricular line: and on passing the probe into it, I found what appeared to be a small surface of denuded and roughened bone, slightly depressed. I insisted that it was necessary for an exploratory operation to be performed, to which the patient finally consented. An anesthetic was given, and the scalp freely incised, when a bright piece of metal was revealed, imbedded in the skull. The bone was chiseled away around it, and the point of one blade of a pair of tailor's shears, one and one-eighth of an inch in length, was removed from the brain. The patient made a good recovery. In this case there were no cerebral symptoms, and the patient had walked nearly a mile after the injury.

(To be continued.)

DIPHTHERIA ANTITOXIN IN JAPAN.

There were 353 cases of diphtheria treated by serum injections in Tokio during the year ending November 25, 1896. Of this number 31, or 8.78 per cent., died. In the statistics collected by Kitasato of 26,521 cases of diphtheria in Japan, treated before the introduction of orrotherapy, the number of deaths was 14,996, a mortality of 56.54 per cent.

THE KINGS COUNTY MEDICAL ASSOCIATION.

At the eighty-third regular meeting of the Association there was presented "Report of a Case of Imperforate Anus, with Specimen," by Drs. F. H. Stuart and J. C. Bierwirth. Dr. L. A. W. Alleman demonstrated a new "Refractometer," and Dr. Jonathan Wright a "Nasal Manometer."

FLAT CHEST; PRODUCED BY HABITS OF POSTURE. ITS PREVENTION AND CORRECTION.

BY ELIZA M. MOSHER, M.D.,

Brooklyn, N. Y.

Read before the Kings County Medical Society.

The human skeleton, viewed from the standpoint of its mechanics, consists of a pedestal, the pelvis, upon which rests a flexible, upright column, the spine. To this flexible upright are fastened twenty-four ribs: these, with the costal cartilages and sternum form the chest, which is suspended from the spine anteriorly, in its middle third.

Along the sides of the chest the arms hang, being attached to the scapulæ, through which they, as well as the chest, derive support from the spinal column; upon the summit of the latter the head poises, its range of movement being such as to permit its weight to drag upon the upper part of the spine in all directions.

The trunk thus formed rests upon two unstable, jointed supports, the legs; which, when not in use as supports, often act as weights suspended from the pelvis.

A line passing through the center of the head and trunk to the middle of the space between the feet, divides the body in lateral halves which are symmetrical, and balance each other in weight.

From the front to the back, this line does not divide the body symmetrically, owing to a dissimilarity in the bones of the skeleton anteriorly and posteriorly. The distribution of weight differs here also; the forward projecting chest with its contents, finds its counterpoise in the backward projecting sacrum, with its load of gluteal muscles.

Muscles and gravity are the forces which move the skeleton, and hold it stationary: muscles elevate it to the upright position and arrange its parts, so that gravity, acting upon equal masses, can hold it in place with little expenditure of muscle force.

It is evident that the apparatus must be a complex one which can move at will such a jointed and weighted structure as the human skeleton: the distribution of material must also be accurate to make equilibrium possible upon a base as narrow as that presented by the feet.

The body not only learns to equilibrate, but to do so in a variety of positions, symmetrical and otherwise. Sooner or later, it acquires a habit of poise, which it often retains during the life of the individual. This habit will, in time, permanently modify the shape of his body, thus influencing his life for good or evil.

A healthful poise of body is one which permits the various organs which it contains to hang evenly upon their supports, without encroaching upon one another, in which also the distance between the origin and insertion of muscles is such as to permit them to do their work with the least expenditure of contractile force.

Upon the position of the pelvis depends the shape of the superimposed trunk, since to equilibrate, the spine with its weight of chest, arms, and head, must keep the center of mass over the center of support. This is well exemplified in an individual having one leg an inch shorter than the other; the loss is too slight to be remedied by rising on the toes, so the pelvis drops on the shorter side to reach its support. The spinal column, to maintain the body in equilibrium bends toward the elevated side carrying with it the chest, arms and head. All the organs within the trunk are thus made to hang at an angle of inclination, and the muscles of the corresponding sides work at unequal distances. The lateral spinal curve, produced in this way, is the unavoidable result of inequality in the supports of the pelvis, and is liable in time to become exaggerated by the tendency of the upper weights to fall *beyond* the point of balance. To again restore equilibrium, the upper end of the spine bends in the opposite direction, and thus a double lateral curve is formed.

This process of curve-making by means of variations in the adjustment of the pelvis, together with the downward pull of weight applied to the upper part of the spine, gives us a hint as to the probable causation of the antero-posterior lumbar and dorsal curves always present in the spinal column of the adult.

The *chest* is fundamentally modified, in size and shape, by the habitual poise of the pelvis in standing and sitting. The sternum recedes from the spine or approaches it according as the "angle of obliquity" at which the pelvis is held is increased or diminished. This "angle of obliquity" depends upon the action of the lumbo-sacral muscular apparatus, aided by the extensor muscles of the legs and feet. After elevating the trunk into an upright position the lumbo-sacral muscles should transfer their leverage to a higher point, and elevate the pelvis posteriorly. By

this means the gluteal weight is carried outward and upward, to balance which, the chest must be held with its rib walls in their best position for the free movement of the inspiratory muscles and diaphragm.

The rectus abdominis, which moors the sternum to the pubes, in this position, maintains its normal length, as do also the other muscles which make up the abdominal cylinder. The gluteal muscles being held in semi-contraction develop in size, and increase in weight, thus promoting almost directly enlargement of the chest so desirable as an aid to physical robustness. In this posture the scapulæ occupy a vertical plane in *front* of that presented by the most projecting part of the pelvis. The balance of the trunk is so perfect that the head is not needed as a counter weight, and is free to poise upon the summit of the spine without dropping habitually in any one direction. The dorsal spinal curve does not become exaggerated and the weight of the body falls upon the feet at a point just in front of the ankle joints. The position is illustrated by Fig. 3.

With *diminished* obliquity of the pelvis, see Figs. 1 and 2. Fig. 2 represents a position temporarily assumed by the individual; in Fig. 3, the gluteal mass hangs low, approaching a vertical line passed through the centre of the body. To maintain an equilibrium in this position, the spine straightens out its lumbar curve, lowers the ribs and brings the sternum towards itself, thus measurably lessening the capacity of the chest cavity. The dorsal curve deepens and in time the line of the shoulder approaches or falls *behind* the line of the pelvis. The head being needed as a counter-weight for the backward receding shoulders projects forward with the chin elevated. The extensor muscles of the legs and feet habitually relax and the knees bend loosely, the weight of the body is permitted to rest upon the heels. As this posture becomes habitual, the sternum carrying with it the ribs, approaches the pubes as well as the spine, thus shortening the rectus abdominis as well as the other muscles which make up the anterior portion of the abdomen. The intercostal space diminishes in depth, and the respiratory muscles all work at a disadvantage owing to the close proximity of their points of origin and attachment. The chest, in shape, becomes flattened from before backward, and rounded posteriorly. The lung chamber is diminished in size and cannot in this position be greatly expanded even by extreme inspiratory effort.

This is the posture of relaxation or, as the French idiom would

express it *se laisser aller*, the more or less complete abandonment of the body to the force of gravity without first properly placing its weight in position to hold it in normal poise. It is the posture of age and decrepitude, of lowered vitality and weakness.

It may be acquired at any age, and in a greater or less degree it is a posture unfortunately common among our American people. Who shall say it is not an important factor in the etiology of the pulmonary tuberculosis which so ravages our land?

Flat chest is rarely seen in very young children, even in families where there is a predisposition by heredity to pulmonary disease. It generally begins to show itself during school life, with its hours of enforced quiet of body, unhygienic seats and desks, and over- or under-heated impure air.

Even the games of children sometimes tend to favor its production. If the habit has not been acquired in childhood the life of the high school or college may produce it. The occupations of men and women may be such as to favor the formation of this habit; certain it is that the results are seen in the body of the clerk, the accountant, the college professor, and the clergyman; even the busy doctor sometimes succumbs to it and becomes flat-chested, in spite of the fact that his overworked body and brain demand all the oxygen that can be carried by the chest.

How can this evil be prevented? By drilling children in correct habits of posture standing, sitting, and walking; by making the hours of enforced inactivity as short as possible; by furnishing them with seats upon which the body can balance easily, see Fig. 6, with the pelvis in normal obliquity,* by giving frequent exercises with the object in view of enlarging the chest, and by encouraging such games only as tend in the same direction. Every nursery should have in its doorway an adjustable horizontal bar upon which each member of the family can suspend himself by the arms once or twice daily. In this position the legs become a weight upon the pelvis, which, dragging upon the spine straightens its curves, stretches the abdominal cylinder lengthwise, and widens for the moment the intercostal spaces.

A rule for correct standing, simple enough to be taught to any child is this: stand with your heels behind your belt line, draw your chin back to the neck with your head level, in this position relax your muscles, or place one foot half its length behind its fellow and without changing the position of the upper part of

*An angle of 63°, as measured by my pelvic obliquimetre.

the body, slide the other foot back until the heels are in line. When the body is to rest long upon the feet, place one foot with the heel behind the belt line and the other a little in advance; make the knee of the posterior leg firm and rest the weight of the body upon it, relaxing the muscles of the other leg. Transfer the weight from one leg to the other without changing the position of the pelvis.

The muscles of the legs *must* be trained to hold the knees firm (one or both) when the weight of the body is resting upon the feet; the lumbo-sacral muscles must habituate themselves to hold the gluteal weight high in standing, sitting and walking; with the head erect the chest will project outward and upward providing ample space for residual air, as well as favoring the movement of tidal air.

The matter of dress must be carefully looked after from childhood to old age, if the body is to be poised correctly. The pressure of the coat, buttoned a little snugly, over the sternum in boys and men, cannot be otherwise than an influence tending to the production of flat chest. Tight underwaists and the pressure of corset steels, are harmful to girls and women. Tight waistbands pressing upon the abdominal muscles, tend to pull the chest down in front, and prevent the ribs from rising toward a horizontal plane. Boot heels over half an inch in height, and the absence of them, as the girl grows tall, are also harmful.

Out of door vigorous muscular exercise is an important element in the education of the body; walking, running, climbing, are natural exercises. "All-round" gymnasium work under a well educated instructor is of the utmost advantage. The bicycle as a means of training the body in habits of correct poise, and of strengthening the holding power of muscles, is a force the value of which can scarcely be overestimated. Like all good things, however, it must be used with discretion, if it is to do the good work for mankind which it so richly promises. The upright posture on the bicycle offers to the body exhilarating exercise with every organ and most of the muscles *in normal position* (see Fig. 4), and with an expenditure of force within the limits of ordinarily healthy individuals; the stooping posture, fast riding, and long hill climbing should of course be avoided.

Muscles may carry the body voluntarily where they will and hold it, as long as they are able; but when they hand it over to the force of gravity, they must acquire a habit of placing it *with-*

out thought in such position as shall conduce to the maintenance of its highest vigor and perfection.

Flat chest, caused by bad habits of posture can be corrected at almost any age by proper and persistent training. The suggestions given for its prevention are equally applicable here, but the services of a wise teacher of corrective gymnastics will also be found indispensable. There are other causes which play a more or less prominent part in the production of flat chest, but among them none are more potent than bad habits of posture.

The importance of providing properly fashioned chairs in the schoolroom and the home, cannot be overestimated. Fig. 5 shows the incorrect posture which the body is forced to assume in a chair unscientifically planned. The shape of the back of this chair and the angle which it forms with the seat, causes it to tilt the pelvis into a horizontal position; the line of the shoulders is behind that of the sacrum; the head falls forward and the chest becomes flattened in front. It would be easier for the student to maintain an erect position on a stool of the right height, having a broad seat, than upon a chair of this pattern.

These defects of the ordinary chair are overcome in the one shown in Fig. 6, planned for the Packer Institute some two years since. The upright posts of this chair are perpendicular to the seat and widely separated. The lower cross bar is placed sufficiently high to permit the sacral region to pass beneath it thus allowing the pelvis to assume a normal anterior obliquity. This cross-bar supports the spine in the dorso-lumbar region, while the scapulæ rest against the upper cross bar.

The chest is in position to expand easily and naturally. The force of gravity tends to maintain the trunk in normal upright position in this chair thus lessening muscular effort.

DISCUSSION.

Dr. Geo. A. Evans: The hour is so late, Mr. President, that I feel some reluctance in accepting your invitation to say a few words on the important subject Dr. Mosher has presented for our consideration this evening.

The primary factor in the production of "flat chest" in young subjects, is, I believe, a lack of muscular development, the result of sedentary habits. I do not think this point was sufficiently emphasized by the paper. Several years ago Dr. French read a paper before the society on occlusion of the nasal passages by lymphoid growths, and demonstrated by numerous photographs

how they frequently operate, through their contraction of the upper respiratory channels, to cause a retraction of the inferior costal region by depression of the ensiform cartilage. But the chief point, I take it, to which Dr. Mosher wishes to call attention is the flat upper chest, which is the result of habitual bad posture in standing and sitting. This, she has clearly demonstrated, may be easily overcome by simple and intelligent management. The point which the paper referred to, but did not sufficiently emphasize, as I have stated, is that these flat-chested subjects, lacking in muscular energy, the result of indoor life, depend too much upon gravitation in standing and sitting and do not call into play their muscles as they should, to assist in maintaining the normal poise which Dr. Mosher has so well described. These subjects simply allow their bodies to assume whatever position can be maintained with the least possible effort. The result is that in most instances the abdomen is bulged forward, the scapulæ are projected posteriorly and the chest is flattened.

The remedy, as it seems to me, and as suggested by the paper, is purely one from the standpoint of gymnastics. Patients must be trained by those who have scientific discretion and extensive experience in the management of this class of cases. The use of the horizontal bar under such conditions, as suggested by the paper, cannot be too highly commended. On reflection we may easily understand that when the body is suspended by the hands from the bar and the feet are raised from the floor, the weight of the body on the spinal column separating the vertebrae must draw down the posterior ends of the ribs, while the pectoralis major and accessory muscles draw up their anterior ends causing them to approximate a horizontal plane, thus securing the largest chest dimensions possible. The lungs are thus distended with air as a secondary result of a primary chest expansion. In voluntary deep breathing, however, which we frequently employ to overcome a flattening of the upper chest, lung enlargement is more in the nature of a primary operation to which the chest expansion is made secondary. If we make use of voluntary deep breathing to overcome the difficulty and the patient should have a lymphoid growth in the vault of the pharynx, or a partial stenosis of the upper air passages from any cause, inspissated mucus etc., the muscular efforts made to expand the thorax, will enlarge the upper chest, in a measure, it is true, but at the same time the ensiform and costal cartilages will be sucked in and produce, eventually, a deformity—the so-called cobblers' chest. In con-



clusion I wish to add that I fully endorse all that Dr. Mosher has said on this subject and commend her efforts to secure a better recognition of the importance of posture in standing and sitting with a view to the prevention and correction of "flat chest," especially in young subjects. We should also remember that it is possible for this deformity to bring about a serious disturbance of the nervous system, as well as of the functions of the viscera of the whole body.

BROOKLYN, N.Y.

VITAL STATISTICS FOR FIRST QUARTER OF 1896.

BY GEORGE E. WEST, M.D.,
Secretary Department of Health.

	Reported.	January.	February.	March.
Reported	Births.....	1681	179	177
	Deaths.....	1925	184	1981
Deaths from	Small-Pox.....	1	0	0
	Measles.....	37	53	54
	Scarlet Fever.....	17	21	11
	Diphtheria.....	128	100	79
	Croup.....	4	3	25
	Whooping Cough.....	19	13	14
	Typhoid Fever.....	20	11	6
	Puerperal Fever.....	18	2	13
	Diarrheal Diseases.....	6	1	17
	Pneumonia.....	358	347	402
Reported Cases of	Small-Pox.....	2	1	0
	Measles.....	1198	1323	1377
	Scarlet Fever.....	282	281	265
	Diphtheria.....	622	443	411
	Typhoid Fever.....	40	32	37
Death rate of	Brooklyn.....	20.6	21.1	21.2
	New York... ..	22.0	22.2	23.7
	Philadelphia.....	21.8	21.1	22.7
	London.....	18.0	20.2	19.6
	Paris.....	21.3	21.8	21.0

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Alterations in the proof will be charged to authors at the rate of fifty cents an hour, this being the printers' charge to the JOURNAL.

EDITORIAL.

SENEY METHODIST EPISCOPAL HOSPITAL.

The marked success which has attended this institution from the beginning is again called to notice by a circular issued to the medical profession by the superintendent, Rev. J. S. Breckenridge. In this circular the completion of the Sixth Street portion of the Eastern Pavilion is announced, thus opening up fourteen handsome rooms for occupancy. All the rooms are well lighted, and most of them command a view of Prospect Park. An elevator renders them all equally easy of access. A graduate in invalid cookery has charge of the menu, and exceptional pains are taken to provide an attractive and suitable diet. Trained nurses and competent orderlies minister day and night, and in all needful ways, to these patients.

The prices charged for the rooms are exceedingly moderate, considering that everything is included.

We are glad to note the following phrase in this letter:

"The attending Surgeons and Physicians of the Hospital are entitled to compensation from patients occupying private rooms, and all such patients will personally arrange with their medical attendants as to professional fees."

INEBRIATES' HOME FOR KINGS COUNTY.

Senator George W. Brush, M.D., has succeeded in having passed by the legislature a bill to reorganize the Inebriates' Home at Fort Hamilton. The bill provides for a new board of incorporators, among them Drs. George R. Fowler, Lewis D. Mason, and J. H. Raymond. These with twelve laymen and the Mayor ex-officio, constitute the board. The incorporators are to be divided into three classes of five each, five of whom shall hold office for a term of two years, five for four years, and five for six years. All vacancies in the board are to be filled by a majority vote of the incorporators, and the future term of office is to be six years.

SECOND PAN-AMERICAN MEDICAL CONGRESS.

The second Congress will meet in the City of Mexico, November 16 to 19, 1896, and we are sure that those who avail themselves of the invitation to be present, which is extended to the entire profession, will be amply repaid. The interesting lectures on Mexico, given in this city by Dr. J. H. Hunt, after his return from that country, have familiarized us with its beauties, and the time selected for the meeting of the Pan-American Congress is one in which everything can be seen to advantage.

It is sincerely to be hoped that those who go to represent Brooklyn will be contributors to the literary feast of the occasion, and to this end; titles of papers to be read should be sent at the earliest practicable date to Dr. Eduardo de Liceaga, Salle de San Andres, num 4, Ciudad de Mexico, D. F. Republica Mexicana.

Those who contemplate attending should send their names and addresses at as early a date as possible to Dr. Charles A. L. Reed, St. Leger Place, Cincinnati, that the Committee in Mexico may be advised of the probable attendance.

JENNER CENTENNIAL BANQUET.

The banquet held under the auspices of the Medical Society of the County of Kings at Pouch Mansion, May 14th, to commemorate the inauguration of vaccination was, without exception, the most perfect in all its details and appointments that it

has ever been our privilege to attend. To describe it, or to give those of our readers who were not fortunate enough to be present any idea of it, would be to intrude on the domain and prerogative of the Historical Committee, but we know that we voice the unanimous sentiment of the profession when we express gratitude to Dr. J. H. Hunt, who conceived the plan, and to Drs. Fairbairn, Barber, Hall, and Palmer, who, with the assistance of Dr. Hunt, executed it. It will long serve as a model for similar celebrations.

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PROGRESS IN MEDICINE.

OTOLOGY.

BY J. E. SHEPPARD, M.D.,

Professor of Otolaryngology at the Long Island College Hospital and at the New York Polyclinic; Aural Surgeon, Brooklyn Eye and Ear Hospital.

ON THE INDICATIONS FOR MASTOID OPERATIONS IN ACUTE PURULENT OTITIS MEDIA.

Knapp of New York (*Arch. of Otolaryngology*, Vol. XXIV, Nos. 3 and 4) in answer to the question, "Where and How Long is Conservative Treatment Commendable?" after giving in detail the histories of four cases draws the following conclusions therefrom: 1. *There is in acute otitis media no symptom which by itself constitutes a sufficient indication for a mastoid operation.* The most important symptoms are: local pain, spontaneous, and on pressure, headache, rise or fall of temperature, dizziness, nausea, vomiting, stupor, aphasia, hemianopsia, optic neuritis, paralysis, coma. Neither is there any one symptom that in any case contraindicates operation with the exception, perhaps, of deep coma. 2. *The indication for operating is derived from the ensemble of the symptoms and the course of the disease.* In one of his cases the course during the first three weeks afforded hope for a spontaneous recovery, then a sudden rise of temperature, swelling of the mastoid, and congestion of the optic disks appeared as danger signals which urged an immediate operation. 3. *Even if the patient does well and seems cured, we should for weeks and months not lose sight of him, for acute purulent mastoiditis is a treacherous disease.* The antral part may be cured, but weeks and months later foci of suppuration may develop in the basal or apical part of the mastoid and in the cranial cavity, that require immediate

operation. 4. *Whatever the symptoms be, we should, as a rule, begin the operation by opening the antrum and then be guided by the conditions coming into view.* In one case which died without submitting to operation, the autopsy showed that an opening of the mastoid would surely have led the operator into the cranial cavity, when by evacuation of the epidural abscess and drainage the patient's life might have been saved.

CLINICAL AND PATHOLOGICO-ANATOMICAL OBSERVATIONS CONCERNING
TUBERCULOSIS OF THE MIDDLE AND INTERNAL EAR.

Barnick (*Arch. für Ohrenh.*, Band XL, H. 2) reports a few cases from the clinic of Professor Habermann, in Gratz, bearing upon this subject, and, after a historical review, makes the following observations: Of first importance in the picture is the almost or entirely painless onset of the disease. The patient's attention is attracted by a slight tinnitus, rapid loss of hearing, and then a thin, purulent discharge. The painlessness of the process is due to the cheesy destruction of numerous circumscribed nodules. The breaking down of these, if near each other, leads to a rapid destruction of the whole membrana tympani: if farther apart, to multiple perforations.

The rapid loss of hearing is caused by obstructions in the sound-conducting apparatus, from the diffuse cellular infiltration of the tympanic mucosa. If death does not intervene the further progress of the case is shown in caries of the ossicles and of the tympanic walls, extension to the labyrinth, to the facial nerve, and to the brain and its membranes.

B. recognizes an acute and chronic form of which the latter is much more frequent. The acute form is infrequent and due to deposits of tubercle bacilli out of the blood stream, similar deposits taking place simultaneously in other organs with the rapid development of miliary tuberculosis. There is also an occasional hematogenous infection in the chronic form, but much oftener the bacilli reach the tympanic cavity by way of the Eustachian tube. A primary case of tuberculosis of the temporal bone has not yet been definitely established, although its occurrence cannot be doubted.

THE ELECTRICAL TREATMENT OF TINNITUS AURIUM.

H. Lewis Jones, M.D. of London (*Arch. of Otolology*, Vol. XXIV, Nos. 3 and 4). In view of the difficulty, coupled with the desirability, of finding some satisfactory remedy for this trouble, it seems worth while to quote somewhat extensively from this article.

In normal individuals a sensation of sound is produced at make and break by battery currents of a certain strength; and in certain abnormal conditions this response of the auditory nerve is much more readily evoked. The reaction formula follows that of voluntary muscle, namely, cathodal closure produces a sound more readily than anodal closure, while the opening shocks only produce a sensation of sound when the currents are of greater strength. In normal conditions a current of five milliamperes or more is needed to excite the first sensation of sound with the cathodal closure, while in some cases of tinnitus one milliampere may be sufficient.

The effect of the steadily flowing current is to maintain a sensation of sound if the cathode is applied to the ears, but the anode applied in the same way does not produce a sound, and when tinnitus is present it may be increased by the cathodal steady current, and diminished or stopped by the anodal. This is in accordance with what is known of the electrotonic effect of the poles; the state of anelectrotonus causing decreased irritability, and the state of cathelectrotonus increased irritability in the nerves near the respective poles. Inasmuch as tinnitus aurium is often associated with an increased state of irritability in the auditory nerve, it follows that a steady battery current, with the anode to the ears, may arrest it, and many brilliant cures of the symptom have been effected in this way.

J. says that "out of a very large number of patients who have been under my treatment for noises in the ears, about one-third have been freed by a course of treatment applied in the way to be described. Some of them have certainly returned after the lapse of several months for further treatment, and in them the symptom has, for the most part, again yielded promptly to the renewal of treatment. Inasmuch as it is possible to determine at the first sitting whether the patient is likely to be relieved, one objection, viz., that of the uncertainty of the treatment, no longer holds good."

The auditory nerve can best be acted upon by a bifurcated or *divided* electrode, which can be applied to both ears at once. At a pinch a binaural stethoscope answers very well, small metal discs being substituted for the ivory ear pieces: these ends may be applied just in front of the tragus, and kept in place without unnecessary force by an elastic band or spring. The parts in contact with the skin should not be of less diameter than two

centimetres, a pad of moist absorbent wool being placed between the electrode and the skin. The indifferent electrode is placed at the back of the neck; and a galvanometer and a rheostat should be included in the circuit, which enables the operator to introduce or remove a resistance of 10,000 ohms quite gradually. The current is slowly and steadily raised to five milliamperes and then to eight or ten, each ear receiving half, the patient being instructed to pay attention to the noises and to give notice of any change occurring to them in the course of the sitting, whether by closing, interrupting, or reversing, the current. If diminution of the tinnitus occurs the patient should be encouraged to continue treatment, and *vice versa*. The relief from tinnitus will at first be brief, but for a longer interval after each treatment, until it disappears altogether; and the treatments should accordingly be at first frequent, and then at longer intervals.

In progressive sclerosis of the middle ear, in which tinnitus is so common a symptom, the prospects of its cure by electricity are not very favorable.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society Building, 356 Bridge street, on Tuesday evening, April 21, 1896, at 8.30 o'clock.

The president, Dr. George McNaughton, in the chair.

There were about 150 members present.

The minutes of the March meeting were read and approved.

REPORT OF COUNCIL.

The council reported favorably on the following applications and recommended that they be elected to membership :

Dr. John Milton Holt.

Dr. Franklin Bennett.

Dr. Augustus J. Molloy.

Dr. P. Chalmers Jameson.

Dr. Mary DeB. Ingram.

Dr. Jarvis S. Wight, Jr.

PROPOSITIONS FOR MEMBERSHIP.

The secretary presented the following propositions:

Dr. Charles Gartner, 257 Humboldt street; Albany Med. Coll., 1895; proposed by Committee on Membership.

Dr. Oren B. C. Kinney, Sheepshead Bay; Univ. of Vermont, 1890; proposed by Committee on Membership.

Dr. Charles A. Williamson, 297 Halsey street; P. & S. N. Y., 1893; proposed by Dr. H. N. Read, Dr. G. McNaughton.

Dr. Frank E. Smith, L. I. State Hospital, Univ. of N. Y., 1891; proposed by Dr. D. E. Warren, Dr. Geo. McNaughton.

Dr. L. Lanzer, 14 Ten Eyck street; Univ. of Tennessee, 1896; proposed by Dr. Jas. L. Kortright, Dr. J. Fuhs.

ELECTION OF MEMBERS.

The following having been regularly proposed and favorably acted upon by the Council, were declared by the president elected to membership:

Dr. Frank D. Merritt, P. & S., N. Y., 1893.

Dr. Martin L. Bodkin, P. & S., N. Y., 1894.

Dr. Wm. B. Hustes, Licentiate Greene Co. Med. Soc., 1895.

Dr. F. E. Lambert, L. I. C. H., 1894.

Dr. F. P. Bergen, L. I. C. H., 1894.

Dr. Wm. S. Hubbard, L. I. C. H., 1894.

Dr. L. J. Morton, L. I. C. H., 1884.

REPORT OF THE HISTORICAL COMMITTEE.

Dr. Joseph H. Hunt, chairman, presented the report of this committee.

Dr. Wm. Schroeder, the secretary of the committee, supplemented the report of the chairman by various interesting statistics in regard to the history of the profession in Kings County.

SCIENTIFIC BUSINESS.

Dr. S. H. Monell presented a paper entitled, "Röntgen's Contribution to Surgical Diagnosis," illustrated with fluoroscope, vacuum tubes, apparatus and plates.

The president tendered the thanks of the Society to Dr. Monell and the gentlemen who had assisted him in the very interesting demonstration of the subject.

NEW BUSINESS.

Dr. J. L. Kortright announced that the American Pediatric Society was making a collection of cases of diphtheria—in private practice only—treated with antitoxin, and that he had some blank

forms for that purpose which he would be glad to distribute; that further blanks could be obtained from Dr. Dwyer, and that said blanks should be returned by the 1st of May in order to be available for the coming meeting of that society.

There being no further business, on motion adjourned.

DAVID MYERLE, M.D.,
Secretary.

BROOKLYN GYNECOLOGICAL SOCIETY.

'Stated Monthly Meeting, February 7, 1896.

The vice-president, Dr. L. Grant Baldwin, in the chair.

PRESENTATION OF SPECIMENS.

Dr. Ernest Palmer presented a fibroid tumor of the uterus.

Dr. Charles Jewett presented a suppurating ovarian cyst.

Discussed by Drs. A. J. C. Skene and Van Cott.

Dr. Jewett reported another case bearing on the question of diagnosis in uterine cancer.

The patient a woman, fifty-four years of age, married, had had seven children, the youngest then twenty-one years old. There had also been fifteen miscarriages. She gave a history of menorrhagia, dating from June, 1893. The uterus was $4\frac{1}{2}$ inches in length externally. February 26, 1894, she was curetted, with practically no benefit. The curettings were examined by Professor Van Cott, who reported adeno-sarcoma, with prospect of degeneration into carcinoma. On May 16, 1894, she was again curetted and a partial Byrne's method was adopted in the hope of controlling the excessive blood loss. The cavity of the uterus was cauterized with a Paquelin. This was done instead of hysterectomy, for the reason that the liver was enlarged, the lower margin reaching three inches or more below the border of the ribs, and the clinical picture was not such as to encourage any more serious undertaking than the palliative one. The cautery partially relieved the hemorrhage for nearly a year. I saw her again in January, 1896. For several months the flow had persisted from six to nine days. It was very profuse, confining the woman to bed for about half the month and leaving her weak and exsanguinated. The liver was no larger than at the previous examination a year and a half before, and there was no clinical evidence of carcinomatous disease of the uterus, which was no

larger than when first examined. The uterus was removed by the vagina, the woman making a good recovery.

The point in the case is the obvious one relating to the diagnosis of carcinoma. I have presented it as a text for Dr. Van Cott, who has kindly consented to discuss it from the histological standpoint.

Dr. Van Cott: Mr. President, I hold in my hand sections made from the uterus of which Dr. Jewett speaks, on which I have marked with ink to denote the distance into the uterine tissue to which the endometrium has grown. It is a very fine example of exactly what was brought up in the paper which I had the privilege of presenting some time ago before your Society on the question of malignant adenoma of the endometrium. There can be no doubt at all that my original diagnosis of "adeno-sarcoma, which is evidently retrograding into a lawless carcinoma" (March 7, 1894), to Dr. Jewett was erroneous. This slide shows that the endometrium has become hyperplastic and has crawled in between the bundles of muscle, reaching a point nearly half through the wall of the uterus. The pen marks fall a little short of half the distance through the sections, but when we remember that they have shrunk unequally, the process of hardening having shrunk the mucous membrane or the endometrium considerably more than the muscular wall of the uterus: it will be fair to say that the pen marks are just about midway of the length of the sections. These sections are made through the endometrium and the entire wall of the uterus, and represent the thickness of the wall of the uterus. The fresh specimen was slightly larger than a normal uterus and had that peculiar globular appearance which, it seems to me, is one of the characteristic points regarding uteri in this condition. It differed, however, from what was described in my paper in this way, that the endometrium was not so soft and velvety and did not present such an appearance of succulent growth as in other cases. My own fancy is, that the reason for this may very well be found in the modified Byrne's method, which was used for burning out the whole thing.

I have brought a microscope here, and if you care to examine the sections you will see that the little circles surround portions of the characteristic retiform tissue of the endometrium, which are seen to be not only between the muscular bundles, but also in very close proximity with the large deep vessels of the uterine wall, so that from a histological standpoint it would seem fair to

reason that it is a typical case of hyperplasia endometrii which has gone to the extent of burrowing into the region of the large vessels, eventually producing the hemorrhage so constant in this case. If this be so, this uterus must be regarded another proof of the verity of the contention in my paper, and also show the danger of error in diagnosis of curettings from such cases.

Dr. Byrne: I do not know that anything I could say would throw additional light on the matter. The pathological report speaks for itself. As to the necessity which existed for radical measures there can be no doubt whatever. I think the case is very instructive in the fact that any case with such a history would, ninety-nine times out of a hundred, turn out to be one of true carcinoma, but, as I understand the report, it was not so in the present instance.

Dr. Chase: This case raises, from a clinical standpoint, the very interesting question of the similarity, as far as symptoms are concerned, between malignant and non-malignant growths, and leads us to the same method of combating either, that is the operative method.

The paper which Dr. Van Cott presented here was one of very great interest, for from the information we get at the present time we may have all the symptoms which go to make up malignancy and yet without being malignant.

Dr. Chase: Mr. President and gentlemen, I will take up but a minute of your time, which has been somewhat exhausted already, as the valuable paper which is coming is certainly entitled to precedence.

These three specimens which I present here were removed from a patient in my service in the Bushwick Hospital. The patient is of African descent, thirty-five years of age, and, as I learned the history from Dr. Anderson, my assistant, who had seen her, she did not know she was sick until three days prior to entering the hospital, when she sought advice and relief from inability to urinate, and for this period her urine had been drawn every eight hours. Examination revealed a neoplasm in the pelvic cavity, and it was found that the uterus was considerably deeper than normal. There was evidence of extensive adhesions, and the cervix uteri was directly behind the pubes, and the bladder above that, and the reason anatomically she could not urinate was owing to the fact that the urethra had been stretched about as long as my finger. On opening the abdominal cavity there could be found an immense amount of adhesions, in fact, it was

most difficult to determine when one had entered the peritoneal cavity on this account.

The first interesting point was the position which the bladder occupied. It covered all those other growths, was pushed up midway between the pubes and the umbilicus, and while it was supposedly empty at the time of the operation, it contained about a pint of residual urine, showing it had not been emptied and was adherent in this position. After the adhesions were gently separated and the bladder allowed to descend, it was difficult to make out the anatomical relations on account of the extent of the adhesions, but by having one sound in the bladder and another in the uterus I was enabled to fix a point of departure. These specimens, which I now present, have been in dilute alcohol for nearly three weeks and have become somewhat hard in character and necessarily shrunken. After breaking up the extensive adhesions with my finger, I found this fibroid on the top of the uterus, which was removed by myomectomy with very little trouble after it had been uncovered. On the right side, after breaking up the adhesions with the finger,—and this operation was done almost exclusively with the finger, on account of the extent of the adhesions and the uncertainty of what we were encountering,—was a pus tube which contained about five ounces of pus. Deep in the pelvic fossa of the left side was this cyst, which I believe to be ovarian. Whether it is a fibroid cyst or some other ovarian cyst I am unable to say. At the time I supposed it might have been dermoid, but I find, however, that it contains some rather friable material and had the appearance of inspissated mucus.

Perhaps the other interesting fact might be mentioned that two weeks after the operation the uterus and the bladder had resumed their normal positions in the pelvis.

Dr. L. G. Baldwin (in the chair): This specimen, which shows very positively the number of pathological conditions which a woman can carry around without apparently being sick, and also how readily the organs regain their normal positions after extensive adhesions, is before you for discussion.

Dr. McNaughton: I would like to ask Dr. Chase if there were other evidences of fibroid in the uterus?

Dr. Chase: The uterus itself had undergone fibroid degeneration, but owing to its being so densely imbedded in adhesions it was deemed advisable to go no further.

There is one special point of interest. There was some

unavoidable leakage from the pus tube during the removal of it, because it required all the strength I had in my hands to break the adhesions after having tied it off, and to save, as far as possible, any infection an opening was made from Douglas' *cul-de-sac* into the vagina, and a strip of iodoform gauze about three feet long was left there and pulled out in intervals of a day or so until after four or five days it was all removed and the opening closed entirely. Dr. Skene, what do you think of that cyst?

Dr. Skene: Was there any pus in it?

Dr. Chase: No, there was not.

Dr. Skene: Mr. President, I would say in answer to the question of Dr. Chase that this apparently illustrates another form of inflammation, which I presume is more common than the suppurative variety and which I suppose is known as plastic, in which we find in the cyst fluid large shreds and masses of exudate without pus. I can recall a number of cases where, on tapping, it was found impossible to empty the sac entirely, and on laying it open and then removing manually the contents of the sac, it has been found to be made up of large masses of pure inflammatory exudate or plastic material. There is a mass of material there now, in the specimen that the doctor referred to, which looks quite like lymph that had been soaked in alcohol for a while, and that is the only solution of the presence of the material. The fluid was clear enough, was it?

Dr. Chase: It was clear, but it had a look like mucus.

Dr. Skene: Yes, that is one of those cases of inflammation of the cyst of that grade or degree of inflammation.

Dr. Byrne: I would like to ask Dr. Chase where this was situated?

Dr. Chase: It was situated deep down in the left pelvic fossa, anterior to the rectum.

Dr. Byrne: I recollect some months ago coming in contact with a cyst in that locality after removing a uterus for fibroids, and which was complicated by very dense and extensive adhesions, etc. The amount of dissection that the removal of that cyst would have involved, bearing in mind that our patient was almost moribund, deterred me from removing it. It was tapped and drained per vaginam, and the patient made a slow but complete recovery.

I think, in any case of this kind, where the earlier steps of an operation have been unavoidably slow, and the whole procedure

necessarily critical, that a cyst so situated ought to be disposed of in this manner.

Dr. Chase : The adhesions were as dense as on the other side, and required all the strength in my hand to separate them.

Dr. Byrne : The previous steps of the operation were not complicated?

Dr. Chase : Only on account of the density of the adhesions.

Dr. Byrne : The remark I made will show that in a case where a cyst imbedded as this was it might be taken care of in another manner than by extirpation, if such extirpation was to be at the expense of the patient's vitality.

Dr. L. G. Baldwin : The subsequent history of some of these cases where the uterus is left will be very interesting now that so many operators are advocating removal of the uterus for all sorts of diseases of the appendages, and claiming that patients never get well without it is removed. It would be very interesting six months or a year hence to know of Dr. Chase's patient.

THE COMBINED TRENDLENBURG-WALCHER AND OTHER POSTURES.

Paper by Dr. Robert L. Dickinson, M.D.

DISCUSSION.

Dr. Byrne : I am very sorry that I cannot say anything on the subject that would be of interest to you. I would make one remark, however, *apropos* of Dr. Dickinson's reference to the Sims' position.

When I was a student the invariable posture resorted to for the application of the forceps was the Sims' position. At least this was so in many parts of Great Britain before the fifties, and may be so yet for aught I know to the contrary.

Dr. Skene : This paper suggests quite a great many points that are worthy of discussion. The one that strikes me first and as of the most importance is the great advantage which we have gained in getting our illustrations directly from the subject, from the model. I believe that Dr. Dickinson deserves more credit than any artist—I mean any anatomical artist, or I should say medical profession artist—than any man—for his adapting the methods of the artist as they should be to making illustrations in medicine and surgery, and that is to go right to the living subject. He said that most of the illustrations we have had in the past were made out of people's heads. Now there he is entirely

mistaken—they are made in people's heads, and hence not like anything ever seen in life.

Now the whole subject is brought before us by the doctor in a way that we can comprehend far better than by reading a volume descriptive of these positions, and the anatomical relations of the pelvic and abdominal organs produced by those positions. That is one point which I would like to have emphasized more than has been done—the great value of getting correct illustrations.

I can see great advantage in the simple way which he has devised of not only placing the patient in a comfortable position for obstetric operations, but of holding her in that position by the adaptation of the sheet, and making an operating table out of a chair in a way that is of great practical utility. We know perfectly well that in obstetric practice one cannot send for a table and all that sort of apparatus, and yet by the means at hand and that can always be found he has succeeded in carrying out this postural treatment in obstetrics most admirably, and I think he deserves very great credit.

I am not sufficiently up in practical obstetrics at the present time to be a very good critic, and yet I think I know enough of the subject to see the vast advantages obtained by placing the patient in this position, especially in cases like the one that he gave as an illustration, where version was necessary in a case where uterine contractions had continued so long as to impact the child in the pelvis. I know the difficulties in the old way of trying to perform version after the waters have been drained off and the uterus firmly contracted. Even an expert, catching the moments between the uterine contractions, must find it exceedingly difficult, and yet in this position I can see where it would be, as he demonstrated by the history of the case, of positive advantage.

Now, if you will allow me to call attention to another point, it is this: He has impressed upon me or reminded me of an idea that I have had ever since this Society was established and before, and that is the great advantage that it would be to us if we could have clinical demonstrations such as we have had to-night—for practically this is a clinical demonstration—if we could arrange a certain number of our meetings where we could have demonstrations; I think it would be of vast advantage. I am sure we all recognize the fact that if we had seen Dr. Chase wrestling with his complicated case we would have learned even more than we did from hearing his perfect, graphic, and clear

description, and the presentation of the specimens. Now I think we could have a certain number of meetings where we could have clinical work done. There are many of the minor and some of the major operations that could be done in an evening, and if we could only arrange it I am sure it would be a new departure and a most valuable one. This is the first or the inauguration of what I hope to see grow into a usual and general practice.

There is another advantage that would arise from this. I have cases, and so have all of you, where we would give anything, and so would the patient, for the counsel of the Society. Now, if we could let our patients come before us, as they would, I am sure, and give the histories and have the living subject there to demonstrate the physical signs of disease or whatever it might be that ailed the patient, and then have counsel, comments, and discussion, both in regard to diagnosis and treatment, it seems to me it would be most valuable practice. But that is off the subject a little, sir.

Dr. Corcoran: What is the space to be gained in the diameters in the Walcher position?

Dr. Dickinson: The original claim was about a centimeter, but subsequent researches, though they have been largely made on the live subject, show that to claim three-eighths of an inch is a little too much, and that one-quarter is all that we have any right to expect. However, in the very difficult class of cases where the conjugate of the inlet is contracted, even that extra quarter of an inch is of very definite value. It may free a parietal bone or otherwise allow a head to slip past, which could not possibly be delivered.

Dr. Corcoran: The reason I asked the question was that in a very difficult labor—forceps delivery—which I had on my hands lately, the Walcher position suddenly came to my mind and I tried it, as pictured in the original representation of that position presented by Dr. Dickinson here to-night, and made my first appreciable gain with the forceps in that position. I am sorry that I did not hear this demonstration sooner, as sitting on the floor underneath the patient is anything but pleasant.

NARRATION OF CASES.

Dr. Kortright: In looking over the literature of puerperal insanity, you will find any quantity of statistics upon the prognosis of the disease regarding life, regarding a return to reason, and regarding a permanent insane condition, but nowhere is to

be found, so far as I can discover, anything regarding a return of the insanity at a subsequent puerperium. It is to ask the opinion of the Society upon this point that I relate the following case. Mrs. B. came here from the West and was confined of her first child by a midwife. The surroundings were not of the best. On the second day a large fire broke out across the street and her home was supposed to be in danger. She sprang out of bed and dressed herself in great alarm. On the fourth day she became septic, and on the fifth, maniacal. She remained insane for five or six months and was treated at Flatbush. Her return to reason seems to be complete. What are the prospects in case of a subsequent pregnancy of her retaining her reason? I have among my clientele a woman, the mother of ten or eleven children. With one of them, the fifth or sixth, she was septic, with a temperature of 106° and an attack of puerperal insanity. She was at Flatbush for several months. Her recovery was never complete, and there has been a perceptible increase of her mental peculiarities with each subsequent pregnancy. This is all of my experience upon the subject, and I desire to call out the experience of the Society upon that point.

Dr. L. G. Baldwin: One point I should think would be to consider the origin of the mania in the beginning, whether it was due to meningitis following sepsis, or whether it was some other class of mania.

Dr. Dickinson: A general impression, Mr. Chairman, is of very little value. I recall three consultation cases of puerperal mania, and have heard from the history of two who have had subsequent children. My impression is perhaps gathered from books that puerperal insanity is like puerperal eclampsia—the lightning is not likely to strike again in the same place. The two cases I speak of had very severe labors and extensive injuries, and I saw them late. They were well-marked maniacal cases. In two subsequent deliveries, one for each patient, there was nothing of that kind, although the labors were rather difficult. In a case of my own with well-marked mania the patient developed it suddenly about the third day. She decided that the curtains were hung askew, so she made an ignorant maid bring a high step-ladder, and she climbed the step-ladder and started to straighten the curtain. Then she suddenly changed her mind and, fainting, bumped down each step of the ladder, tearing out a stitch for every step, and had to be picked up and

put back to bed. She was violent for many days. Her two subsequent deliveries have gone off uneventfully.

Dr. Kortright: We have statistics as to the prognosis of the different forms of insanity, such as the septic cases, which if they do not die of sepsis or exhaustion, are apt to recover, but that is not the point. The point I was after is as to the prospects of recurrence in a subsequent pregnancy.

BROOKLYN PATHOLOGICAL SOCIETY.

372d Regular Meeting.

ANNUAL MEETING.

Owing to the inability of the president and the vice-president to be present, Dr. H. P. de Forest, the secretary, was instructed to preside.

Dr. F. J. Shoop acted as secretary pro tem.

PROPOSED FOR MEMBERSHIP.

Dr. A. H. Bogart, Hancock street, corner Nostrand avenue.

University of New York, 1892. Indorsed by Dr. de Forest.

Dr. Russell S. Fowler, 301 De Kalb avenue.

College of P. and S., 1895. Indorsed by Dr. de Forest.

Dr. Geo. A. Williams, 449 Hancock street.

University of New York, 1874. Indorsed by Dr. Van Cott.

Dr. Stephen C. Pettit, Kings County Hospital.

* L. I. C. H., 1895. Indorsed by Dr. Van Cott.

Dr. Daniel R. Stratton, Kings County Hospital.

University of New York, 1895. Indorsed by Dr. Van Cott.

Dr. Joseph F. Todd, Kings County Hospital.

L. I. C. H., 1895. Indorsed by Dr. Van Cott.

ELECTION OF MEMBERS.

Dr. T. B. Spence, 684 Macon street.

Dr. Peter Hughes, 138 South 9th street.

Minutes of the last annual meeting read and approved.

REPORTS OF COMMITTEES.

Dr. F. J. Shoop, chairman of Membership Committee, reported that the committee held its first meeting in May, and decided to send out a circular to the younger members of the profession, containing an account of the work done by the society during the previous year, and other matter which would create in them an interest in the society. This was accordingly done in Sep-

tember and on subsequent occasions, and with each circular was sent one or more blanks for application for membership.

As a result of this effort, and also of the interest occasioned by the Twenty-fifth Anniversary banquet, twenty-four applications have been handed in to the society; all the applicants have been elected.

On a motion the report was received and approved.

Dr. J. M. Van Cott, Jr., reported progress for the Library Committee. The committee has recently ordered Hamilton's work on pathology in three volumes, which will soon be here. The committee believes that such of the best German works on pathology as have been translated into English should be procured, and in some cases untranslated German authorities. In this way a good working library would be built up for the society.

The report was accepted and approved.

Report of treasurer received from Dr. Murray. Dr. Van Cott and Dr. Mosher were appointed to audit the accounts and report at the next meeting.

SECRETARY'S REPORT FOR THE YEAR ENDING JANUARY 1, 1896.

In the year 1870 a few members of the medical profession living in the city of Brooklyn were especially interested in the study of pathology. They came to the conclusion that more frequent opportunities to discuss matters relating to this branch of medicine should be offered than were afforded in the large county medical society, and with this idea in mind a meeting was called, an organization was effected, and the nucleus formed of a new society. At first it was practically a section of the parent society, but its membership increased, its needs grew apace and a separate existence became necessary: the Brooklyn Pathological Society was the ultimate result.

A quarter of a century has elapsed; the germ planted so many years ago proved fruitful, karyokinetic changes occurred in the small original nucleus; the growth was steady and progressive, and to-day we may justly be regarded as one of the foremost medical societies in our city. Our Silver Jubilee has been duly celebrated, and it is with much satisfaction that the secretary is enabled to present to his fellow-workers a report of the work done by this society during the year 1895—in many respects the most important year in our history.

Meetings.—Nine regular meetings were held during the year, on the evening of the second Thursday of every month, with the

exception of June, July, and August. The average attendance was twenty-eight; on one evening forty-nine were present, on another only eleven.

Work of the Society; Specimens Presented.—The chief reason for the existence of this society is to afford its members an opportunity to see the actual tissues of the body as they appear after disease or injury, and to hear these specimens described. It is gratifying to know that the number of specimens thus presented has been large, an average of nearly nine having been presented at each meeting. It has happened, moreover, on several occasions that the number of specimens has been so large that the by-law of limitation of time prevented many valuable specimens from being shown.

We have heard during the year records of seventy distinct cases; several specimens were frequently shown in connection with each case, so that the number of specimens is really even larger than would appear from these figures. The cases are classified as follows:

A. Antenatal Lesions:

Fetus at the end of the 5th month; membrane intact . . .	1
Fetus showing malformation of the hand and foot . . .	1
Total . . .	2

B. Lesions due to Congenital Abnormalities:

Congenital fistula of the lower lip	1
Abnormalities of heart	3
Ischio-rectal dermoid cyst	1
Teratoma	1
Double ureters on both sides	1
Undeveloped kidney	1
Congenital deformity of skin	2
Pseudo-hermaphroditism	1
Total . . .	11

C. Postnatal Lesions:

Osseous System:

Fracture of greater wing of sphenoid bone	1
Depressed fracture of skull; septic meningitis	1
Osteo-chondroma of thigh	1
Total . . .	3

Muscular System: 0

Circulatory System:

Heart with ante-mortem clot 1

Anterior coronary thrombosis; necrosis of septum 1

Aneurism of aorta 1

Aneurism of aorta; rupture into right bronchus 1

Rupture of aorta 1

Aneurism of art. gastro-epiploica dextra; rupture in bile duct 1

Total 6

Lymphatic System:

Lympho-sarcoma of anterior mediastinum 1

Nervous System:

Pacchionian bodies 1

Sarcoma of brain 1

Total 2

Digestive System:

Ulcer of the stomach 2

Carcinoma of stomach 1

Carcinoma of pylorus 1

Appendix; perforation; coprolith 1

Carcinoma of Appendix and cæcum 1

Carcinoma of ascending colon 1

Invagination of sigmoid flexure 1

Biliary calculus 1

Cirrhosis of liver 1

Tuberculosis of liver 1

Carcinoma of liver 1

Post-mortem changes in liver causing crepitation 1

Total 13

Respiratory System:

Tuberculosis of lungs in guinea-pig; inoculated 1

Urinary System:

Rupture of kidney 1

Cirrhosis of kidney 1

Multiple abscesses of kidneys; chronic cystitis 1

Total 3

Reproductive System:

Chronic interstitial mastitis	2
Carcinoma of the breast	2
Uterus and adnexa removed for menorrhagia and metrorrhagia	2
Uterus; septic; attempted abortion	1
Fibroma of uterus	6
Fibroma of uterus; retained fetus	1
Fibroma of uterus; papilloma of dorsal wall	1
Fibroma of uterus; submucous pedunculated polypus	1
Uterine casts	1
Carcinoma of uterus	1
Carcinoma of cervix uteri	1
Pyosalpinx	1
Pyosalpinx; abscess of broad ligament	1
Cirrhosis of ovaries	1
Multilocular ovarian cyst	1
Papillomatous cyst of ovaries	1
Cystoma of ovaries	1
Fibro-sarcoma of ovaries	1
Total	26

Integumentary System:

Epithelioma of chin	1
Multiple carcinoma of skin	1
Total	2

Of these seventy cases, twenty-eight are true neoplasms, and six are tumors caused by inflammation or by retention of secretion. Many of the specimens were of more than usual interest to the student of pathology, and the busy practitioner, who has no interest in the subject save as it aids in shedding light upon practical therapeutics, must have found much of value in the clinical reports and outline of treatment, or of operation, which were related in numerous instances.

Papers read before the Society during the year 1895.—Besides this large amount of work in the preparation and presentation of actual material at the meetings, the following valuable papers have been read at various times during the year:

“Living and Dead Animal-cells as Factors in the Process of Suppuration,” Dr. Joseph McFarland.

"Malformation of the Anus and Rectum; report of Three Cases," Dr. John O. Polak.

"The Staphylococcus epidermidis albus," with cultures, Dr. T. C. Craig, U. S. N.

"Some Manifestations of Living Red Blood-cells," blackboard demonstration, Dr. William Moser.

Constitution and By-laws.—At the meeting of the society held in February it was reported that the edition of the constitution and bylaws of the society was exhausted, and that the list of members was badly in need of correction and alterations. A committee was therefore appointed to publish a new edition of the constitution, bylaws, and list of members. An edition of 1000 copies was soon ready; a copy was mailed to each member, and each member now receives a copy immediately after his admission to the society.

Summary and Comparison.—This, then, is the summary of the regular and scientific work of the society during 1895. A brief comparison of these facts with the corresponding ones reported by the secretary for 1894 is of interest.

	1894.	1895.
Number of members	119	128
Number of meetings	10	9
Average attendance	24	28
Maximum attendance	37	49
Minimum attendance	17	11
Number of specimens presented	60	70
Average number at each meeting	6	8
Number of papers read	9	4

On the evening of July 5, 1895, a special meeting of the society was called to arrange for the celebration of the twenty-fifth anniversary of its founding. As a result of the meeting a committee was appointed with power to make such arrangements as would in their judgment render the celebration a success. The members of this committee were Dr. Warbasse, chairman, and Drs. Otterson, Burge, Van Cott, Murray, Hunt, Shoop, and De Forest.

The committee was enthusiastic in its work; many meetings were held; a dinner was decided upon as the form of celebration; sub-committees were appointed; and matters so expedited that early in November an invitation to share in the celebration was sent to every regular practitioner in the city of Brooklyn.

Over one hundred physicians responded to the invitation; and on the 18th of November "there was a sound of revelry by night" in the parlors and dining-hall of the Montauk Club. The hospitality of the club was severely taxed, but it was equal to the emergency, and the dinner served as the beginning of the festivities reflected great credit upon our hosts.

Dr. Francis Stuart, president of the society, acted as toast-master, and, after the repast had received proper attention, introduced as the first speaker Prof. Truman J. Backus, president of the Packer Institute, who responded to the sentiment "Man and the Universe." Other toasts were responded to as follows:

A Retrospect	. . . . .	Dr. Joseph H. Hunt
The Clergy	. . . . .	Rev. Albert J. Lyman
Professional Brotherhood	. . . . .	Dr. George McNaughton
The Medical Profession	. . . . .	Julius C. Bierwirth, M.D.
The Law	. . . . .	William B. Davenport, Esq.
Medical Journalism	. . . . .	Joseph H. Raymond, M.D.
Surgical Journalism	. . . . .	Lewis S. Pilcher, M.D.
The Prospect	. . . . .	J. M. Van Cott, Jr., M.D.

To compare the merits of the various speakers is needless. All of the addresses were interesting; some were really eloquent. The dry facts of history, the progress and present status of medicine and its allied professions, and the bright hopes for the future were so happily interwoven, and the grave and the gay so aptly combined, that the evening passed quickly, pleasantly, and profitably. The affair was an undoubted success, and as one of the papers facetiously expressed it, was "a sure cure for mulligrubs and fantods."

In view of these facts, therefore, the record of the society for the year 1895 is a bright one. Thanks to the unfailing energy of our president an attractive program was issued each month, and the response of the members has been most gratifying. The list of members is steadily increasing, and among them are found many of the most progressive and capable physicians in the city. The future is full of promise, but we are still capable of improvement; the secretary has therefore taken the liberty of making a few suggestions which have occurred to him as a result of his labors during the year, and which, if adopted, will, in his judgment, add materially to the value of the society, and place it upon a still higher plane of scientific attainment. It is his hope that at any rate the changes suggested may be made the subject of debate, and, if they are found worthy, may be granted a trial.

First of all it will be generally admitted that if our proceedings could be published they would be of value as a source of reference. Records such as ours, are, however, of little value if they are not complete and accurate. The secretary regrets that he is not a stenographer, and is dependent upon his long-hand notes for his final records. These are apt to be too incomplete to be of any permanent value; It has therefore occurred to the secretary that it might be possible to enlist the services of the society in behalf of more complete records. Each member who intends to present a specimen or to read a paper, should be careful to send to the secretary the exact title as he wishes it to appear upon the program. This should be in the hands of the secretary by the *first* Thursday of the month. If it is a specimen which is to be presented, the secretary will thereupon mail to the member a blank such as is used by many of us in recording our private cases. On this card the member should fill out the necessary *data* as fully as he desires, use it as a note of reference at the meeting, and then give it to the secretary. This, combined with the new facts elicited by the discussion, will make a most satisfactory record, and will prevent the petty annoyance of seeing titles incorrectly given, and even the names of the members incorrectly spelled.

In case a paper is read, the paper should be given to the secretary after the meeting; and after it has been used for editorial purposes, it can be returned to the writer if so desired.

In the presentation of specimens more stress should be laid upon the exact diagnosis. This should be verified by the microscope, especially in cases of neoplasm. Where the member has no proper facilities for this himself, the Committee on Microscopy will, I have no doubt, gladly render assistance if they are requested to do so.

Would it not be well if a short time of each meeting were devoted to the consideration of current literature bearing upon the study of pathology? Even the reading of titles and of references would, no doubt, help some of us. A review of the new books as they appear from time to time would be a welcome addition. There is little doubt but that publishers would send such works to the society if they were assured that proper notice would be given them. In this way a reference-library could be accumulated.

The old books, too, should not be forgotten. It is a pleasure to announce, in this connection, that during the coming year

specimens of early pathological literature will be presented to us by the one who, of all of the profession in the city, is best qualified to do justice to this theme, Dr. J. H. Hunt.

Although the number of specimens presented during the past year is really very creditable for a society of the size of our own, yet it is but right to state, that but thirteen persons were directly instrumental in securing this result. One member presented nineteen specimens, another eighteen, others nine, seven, five, three, two, and two respectively, and five members presented one each. This is not at all as it should be; a far larger proportion of members should take part in the work.

There is probably not a single member of the society who does not have opportunities each year to secure pathologic specimens, which, were they presented before the society, would add greatly to the variety and value of the meetings. The secretary is aware that the modesty of some members prevents their speaking before our august body, but this condition should be changed. Arrangements could easily be made with some one who is more actively engaged in the preparation of specimens to give to the society the description of the gross specimen; the Microscopical Committee would willingly prepare slides and verify the diagnosis; while the most important part of all from a practical point of view, the clinical history, could be given by the medical attendant in the case. A similar method could be adopted with specimens which non-members may present from time to time. Such a colaberation of the entire case-history would be of inestimable advantage to all of us, and when published would render our records of great value to the general profession. Will you not as individual members bear these facts in mind and each present at least one specimen a year? The report a year hence will then show that, instead of 10 per cent., 100 per cent. of our members have contributed to the general good. Respectfully submitted,

HENRY P. DE FOREST, M.D.,
Secretary.

Dr. Van Cott moved that the report of the secretary be received, and that it be published with the minutes of the society. This was unanimously carried.

ELECTION OF OFFICERS.

The election of officers for the year 1896 resulted as follows :
President Dr. Frederic J. Shoop

Vice-president	.	.	.	.	.	Dr. Eliza H. Mosher
Secretary	.	.	.	.	.	Dr. Henry P. de Forest
Treasurer	.	.	.	.	.	Dr. Archibald Murray
Librarian	.	.	.	.	.	Dr. J. M. Van Cott, Jr.

MISCELLANEOUS BUSINESS.

It was moved and seconded that a vote of thanks be offered to the retiring president, Dr. Francis H. Stuart, for the faithful, efficient, and acceptable service to the society during the year 1895. This was unanimously carried, and the secretary was instructed to notify Dr. Stuart of this action of the society.

The meeting then adjourned (10:00).

FREDERIC J. SHOOP, M.D.,
Secretary *pro tem*.

CORRESPONDENCE.

EXAMINATION FOR INTERNES AT THE METHODIST
EPISCOPAL HOSPITAL.

TO THE EDITORS OF THE BROOKLYN MEDICAL JOURNAL:

At the Annual Examination for Internes, held at the Methodist Episcopal (Seney) Hospital on Saturday, March 28, 1896, to fill two vacancies, thirty-four men appeared out of forty-three applicants.

The questions for the written examinations were as follows:

GENERAL MEDICINE.

1. Describe the symptoms and treatment of bronchial asthma.
2. Describe the diagnosis and complications of diabetes mellitus.

MATERIA MEDICA.

1. What is aconite, its physiological action and therapy?

OBSTETRICS.

1. What are the indications for the induction of labor?
2. What are the symptoms of extra-uterine pregnancy?

PHYSIOLOGY.

1. Describe the chief functions of the bile.
2. Upon what does the acid reaction of human urine depend, and how does the acidifying substance originate?

PATHOLOGY.

Describe the pathological anatomy and the pathological histology of the kidney in the condition known as Bright's disease.

GENERAL SURGERY.

1. Give the symptoms and treatment of a divided nerve.
2. Describe the changes which occur in the repair of fractures.
3. Describe the most approved operative procedures employed in the treatment of varicose veins of the lower extremity.

GENITO-URINARY DISEASES.

1. Describe the special features that mark gonorrheal infection in women.
2. Contrast the relative advantages of suprapubic and perineal section for lithotomy.
3. Causes, symptoms, and diagnosis of bleeding from the kidney.

ANATOMY.

1. Name in order the structures which pass (*a*) beneath Poupart's ligament, and (*b*) behind the external malleolus.
2. State the course and distribution of the external popliteal nerve and its branches.

3. Give the surgical anatomy of the superior carotid triangle.

There was also an oral and practical examination. The latter included bandaging and splints, urinalysis, microscopical work, and a diagnosis of a medical and of a surgical case from the wards.

The first six men in order of merit are as follows :

1. Otis (F. B.).
2. Forman (H. S.).
3. Boynton (C. E.).
4. Scott (J. W.).
5. Sherwood (W. A.).
6. Lampson (E. R.).

Otis and Forman, appointees ; Boynton and Scott, alternates.

GLENTWORTH R. BUTLER, M.D.,

Chairman Examining Committee, 229 Gates avenue.

HISTORICAL DEPARTMENT.

DR. BENJAMIN WATERHOUSE AND THE INTRODUCTION OF VACCINATION INTO THE UNITED STATES.

The introduction of the new vaccine virus into foreign countries was one of the most important problems which Edward Jenner and his English confrères had to solve.

Not only were they ignorant of the physical properties of the new material, and the best method of preserving it, but it seems that there were also great differences in opinion among at least those who differed designedly or otherwise from Jenner, as to the best time to collect the virus, and exactly what to collect.

Jenner's method was to collect the virus on a silk thread which was used to convey the disease to the recipient by passing it through the skin.

Various other methods were tried. Impregnated lint, or threads enclosed between glass plates, or in bottles and in tubes sealed up with wax. Common steel lancets were charged with the virus much as we charge the ivory points to-day, and these were succeeded by lancets of silver, gilt, gold, and the ivory point, which we still use, though first adopted by Dr. DeCarro of Vienna, in the first years of this century.

Great difficulty was experienced in transmitting the precious virus to the eastern parts of Europe and to India, and other parts of Asia. Repeated trials were made; the first ship which carried a large supply was lost at sea, and other supplies spoiled on the journey, or were misapplied on their arrival. Jenner proposed to the English authorities that they should send in a vessel twenty people who had not had either the smallpox or the cowpox, and that these people should be in turn vaccinated during the progress of the voyage, from the preceding case, thus propagating the virus from arm to arm on the long journey, it should reach its destination in the distant Orient in a fresh and reliable condition. The authorities rejected Jenner's proposal, and the great philanthropist resolved himself to endeavor to effect what the Government was unwilling to attempt and started a subscription with his name at the head for one thousand guineas.

Fortunately before the design could be carried into execution,

tidings arrived that Dr. DeCarro, of Vienna, had succeeded in transmitting the virus successfully to Constantinople, and from thence to Bombay.

It was early in 1799 that the tidings of the great discovery reached the United States. Dr. Benjamin Waterhouse, of Cambridge, Mass., professor of the practice of medicine in Harvard University, received a copy of Jenner's work and published an account of it in the *Columbian Sentinel* of March 12, 1799, headed "Something Curious in the Medical Line." Not long after this he brought the matter before the American Academy of Arts and Sciences. John Adams was at the time not only President of the young republic but also presiding officer of the Academy, and was present at the meeting, and received the communication in a manner worthy not only of his own dignity, but also befitting the occasion and importance of the subject.

Soon afterwards Dr. Waterhouse succeeded in obtaining some of the virus, and with it vaccinated seven of his own children, six of whom went through the disease in the usual manner. He afterward tested the efficacy of the protection by sending three of the children to the smallpox hospital, and one of them was inoculated with smallpox matter by two punctures, and an infected thread was likewise drawn through the skin. No result beyond a slight local irritation was produced.

The successful vaccinations of Dr. Waterhouse's family awakened an intense interest in the subject, and we are told that the zeal of the medical men was excited to an unparalleled degree: but, unfortunately, their discretion did not keep pace with it. They disregarded the cautions which Jenner and Dr. Waterhouse had given and failed to pay proper attention to either the state of the matter they used, or to the progress of the pustule. Others, not of the medical profession, entered into the traffic, and even "obtained the shirt-sleeves of patients which had stiffened by the purulent discharge from an ulcer consequent on vaccination. These they cut into strips and sold about the country as impregnated with the true vaccine virus. Several hundred persons were actually inoculated with this poison which, in several cases, produced great disturbance in the constitution."

Through such quackery as this, and the carelessness of others, Dr. Waterhouse found that he had lost his stock, and wrote to Dr. Jenner for a new supply, which arrived in the spring of 1801. He sent some of the new material to President Jefferson, in whose hands we are told it perfectly succeeded,

and thus, by his example and words, gave fresh impulse to the recognition of its value. In the course of July and August he, with his sons-in-law, vaccinated in their own families and those of their neighbors nearly two hundred persons.

President Jefferson also introduced the vaccination to the native Indians, an embassy of whom happened to be in Washington in December of that year. Dr. Waterhouse, in a letter to Jenner, thus describes the introduction: "The President one day sent for the chief (named Little Turtle), and told him that he had a matter of great importance to communicate to him for the benefit of the whole tribe of his red children. He told him that the Great Spirit had lately made a precious donation to the enlightened white men over the great water, first to a single person, and from him to another on this side of the waters, and then explained to him the history of the kinepock, as a gift from heaven, to preserve them from the smallpox, and even to banish it from the earth." The chief was vaccinated, together with several of his companions, and departed for their native wilds, taking with them a supply of the virus and instructions for its use.

On the 8th of November, 1807, the Council of the Five Nations sent a belt of wampum to Dr. Jenner with a letter, from which I extract the following: "We shall not fail to teach our children to speak the name of Jenner, and to thank the Great Spirit for bestowing upon him so much wisdom and so much benevolence."

At the time that Dr. Waterhouse received his second supply of virus, Dr. Benjamin Rush and others in Philadelphia were also provided with a similar portion. Thus Philadelphia became, like Boston and Washington, also a centre for the dissemination of vaccination in the United States.

In the *Medical Repository* for 1801 I find the following account of a supply being received in New York: "Dr. Pearson, of London, has obligingly transmitted to Dr. Miller another thread impregnated with the matter of the vaccine pock, for the purpose of making trial of this substitute for the smallpox in the United States." Unfortunately for Dr. Miller and his New York confrères, the two men who probably did most to discredit vaccination in Great Britain were this Dr. Pearson and Dr. Woodville, who in their positions, in charge of the smallpox hospital, had had a large share of the business of inoculation in London, and while they seemed to enter heartily into the new method which

was expected to break up their business, they conducted their experiments so carelessly that they found themselves using a virus which would not do what Jenner and his followers claimed for it. It was probably some of this virus which Dr. Pearson sent to Dr. Miller; at any rate, we find that vaccination was for a long time discredited in New York, and it was not until through the careful perseverance of Dr. Waterhouse and his followers that this vicinity was at last supplied.

For many years Dr. Waterhouse vindicated vaccination against the ridicule and opposition he encountered, both from the profession and the prejudiced public. In 1812 he resigned his professorship and private practice to accept from President Madison the medical supervision of the military posts in New England, thereby having opportunity to extend the blessing in an official capacity.

Dr. Waterhouse (sometimes called "the American Jenner") was born in Newport, R. I., March 4, 1736. At the age of sixteen he began his professional studies with Dr. John Haliburton, of Newport, and after seven years' pupilage, went abroad and became a pupil of Dr. John Fothergill in London, subsequently attending medical lectures in Edinburgh and at Leyden where he was graduated.

On his return to America he began practice in his native town, but was in 1783 invited to assist in establishing the medical school at Cambridge, and accepted the chair of the theory and practice of physic, which he occupied for thirty years. During this time he did much to encourage the study of the natural sciences. He obtained for the college Dr. Lettsom's large and valuable collection of minerals, the foundation of the present cabinet of the University, and introduced the study of mineralogy, then almost unknown in the United States.

In addition to his chair in Harvard, he was also Professor of Natural History in Brown University, Providence, and the first lecturer on the subject in any American school.

He also procured the establishment of the botanical garden at Cambridge which has grown into such noble proportions.

He wrote much on the subject of vaccination and other medical topics, as well as on subjects of natural history. He also contributed largely to the political journals of the day, and wrote "The Botanist" (1811), and "An Essay on Junius and his Letters" (Boston, 1831), in which he attributed the letters to Lord Chatham.

The writer has before him a disquisition of the evils of tobacco smoking, being a lecture delivered to the students at Harvard College while he was Professor of Practice of Medicine. He has also some autograph letters from Dr. Waterhouse, all of which (5) bear evidence of the Doctor's impecuniosity. One to William Winthrop, dated December 20, 1814, after asking the extension of a small loan and inquiring whether his correspondent had any hay to dispose of, continues: "through the failure of a faithless promiser, entirely out of that necessary article, I meant to ask you to let me have a load of it, and wait for the pay thereof until the 15th day of February; a few days prior to which I am assured, *positively assured*, that the now stagnant pools will be again converted into running streams, fertilizing, gladdening, and refreshing the now dry and thirsty ground of Republicanism.

"I dare not say a word like this to a Federalist, who would say, as they have said, '*I told you so. Come over to us and you shall live in clover.*' But I dare say to a rich brother Democrat that the inconvenience, vexation, and embarrassment which this unexpected stoppage of pay for seven months presses upon me full as hard as any of the *Junto* folks could wish."

Let us hope that the doctor's horse got its hay, and the doctor's pecuniary embarrassment was speedily relieved.

J. H. HUNT.

LETTER FROM THOMAS JEFFERSON TO DR. JENNER.

MONTICELLO, VIRGINIA, May 14, 1806.

SIR: I have received the copy of the evidence at large respecting the discovery of the vaccine inoculation, which you have been pleased to send me, and for which I return you my thanks. Having been among the early converts in this part of the globe to its efficacy, I took an early part in recommending it to my countrymen. I avail myself of this occasion to render you my portion of the tribute of gratitude due to you from the whole human family.

Medicine has never before produced any single improvement of such utility. Harvey's discovery of the circulation of the blood was a beautiful addition to our knowledge of the ancient economy; but on a review of the practice of medicine before and since that epoch, I do not see any great amelioration which has been derived from that discovery. You have erased from the calendar of human afflictions one of its greatest. Yours is the comfortable reflection that mankind can never forget that you have lived; future nations will know by history only that the loathsome smallpox has existed, and by you has been extirpated. Accept the most fervent wishes for your health and happiness, and assurances of the greatest respect and consideration.

TH. JEFFERSON.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.

THE PRINCIPLES OF BACTERIOLOGY: A Practical Manual for Students and Physicians. By A. C. Abbott, M.D., First Assistant, Laboratory of Hygiene, University of Pennsylvania, Philadelphia. Third edition, enlarged and thoroughly revised. 12mo., 492 pages, with 98 illustrations, of which 17 are colored. Cloth, \$2.50. Philadelphia: Lea Brothers & Co., Publishers.

The rapidity with which this book has gone to a third edition is sufficient proof of its usefulness. It is acknowledged by all those familiar with the subject of bacteriology that Abbott's Principles is one of the best text-books published. The thorough revision which the former edition has undergone brings this one fully up to date.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS. Philadelphia, Pa.: W. B. Saunders, Publisher. Part III: 1896. Price, \$3.00.

We have already described Parts I and II of this Atlas, which contains beautiful photo-lithochromes from Baretta's wonderful models in the Museum of the Saint Louis Hospital, Paris. Part III contains plates and descriptions of Tertiary Syphilitic Abrasions of the Tongue, Dermatitis Herpetiformis in Concentric Circles, Syphilitic Gummata of the Thigh, and Disseminated Epithelioma of the Face.

A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD. By J. Lewis Smith, M.D., Clinical Professor of Diseases of Children in the Bellevue Hospital Medical College, New York. New (8th) edition, thoroughly revised and rewritten and much enlarged. Octavo of 983 pages, with 273 illustrations and 4 full-page plates. Cloth, \$4.50; leather, \$5.50. Lea Brothers & Co., Publishers, New York and Philadelphia, 1896.

This treatise is one of the standard text-books, and as such is well known to the profession. It has been the constant companion of the reviewer for many years, and he has rarely sought its aid in vain. The present edition has, to a large extent, been rewritten in order to bring the etiology, pathology, and therapeutic requirements of the diseases of children up to date.

The sections on the Surgical Diseases of Children from the pen of the distinguished surgeon, Stephen Smith, are among the most valuable features of the book. We commend it most heartily to both physician and medical student.

THE MEDICAL MUSE, GRAVE AND GAY. A collection of rhymes up to date, by the doctor, for the doctor, and against the doctor. Collected and arranged by F. B. Lillard. New York: J. E. Booth, 1896. Pp. 141.

This little volume contains many rhymes which will amuse and interest the practitioner of medicine, most of them gay, however, which is what he needs, as there is enough of a serious nature in his daily duties. If the compiler wishes to add to the value of his next edition he will not fail to include "Trakeyotomy Dan," by our fellow-townsmen, Dr. John C. MacEvitt. It was published in Volume VII of the JOURNAL, and is one of the most touching tributes to the family doctor we have ever seen.

DIETS FOR INFANTS AND CHILDREN IN HEALTH AND IN DISEASE. By Louis Starr, M.D., Editor American Text-book of the Diseases of Children. Philadelphia: W. B. Saunders, 1896. Price \$1.25 net.

This is a book containing blanks which the physician can fill out for each individual case and be sure that his little patient is not dependent for its food on the memory of the mother or nurse. The arrangement is such that separate blanks are provided for the different periods of life from birth to childhood.

A MANUAL OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By Henry C. Chapman, M.D., Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia, etc. Second Edition, revised, with 55 illustrations and 3 plates in colors. Philadelphia: W. B. Saunders, 1896. Pp. 254. Price \$1.50 net.

This edition differs from the first in containing a brief bibliography bearing on the statements therein made, together with some new figures and tables. It is an exceedingly readable and instructive book and contains the pith of medical jurisprudence in a concise form.

TENTH AND ELEVENTH ANNUAL REPORTS OF THE BUREAU OF ANIMAL INDUSTRY FOR THE YEARS 1893 AND 1894. Washington: Government Printing Office, 1896.

During the years 1893 and 1894, as for many years past, Dr. D. E. Salmon, the able Chief of the Bureau of Animal Industry, was occupied in investigating the diseases of animals and the best methods for their cure and prevention. This volume gives the result of his labors in these directions and of those of his staff. Especially interesting and important is the section of the book which deals with Anthrax in the United States and abroad. The report shows that it is much more prevalent in this country than is generally supposed.

SYPHILIS IN THE MIDDLE AGES AND IN MODERN TIMES. By Dr. F. Buret, Paris, France. Translated from the French, with

notes, by A. H. Ohmann-Dumesnil, M.D., Professor of Dermatology and Syphilology in the Marion Sims College of Medicine, etc. Being Volumes II and III of "Syphilis To-Day and Among the Ancients," complete in three volumes. 12mo, 300 pages. Extra Cloth, \$1.50 net. Philadelphia: The F. A. Davis Co.

We know of no more interesting or valuable contribution to the literature of Syphilis than these volumes of Dr. Buret, so admirably translated by Dr. Ohmann-Dumesnil. It would seem as though the author had made such an exhaustive research into the history of this disease from the earliest times that all future writers would be satisfied to quote from him. One of the most important chapters is that which effectually disposes of the "Pretended American Origin of the Syphilitic Virus." If there are any of our readers who believe that the brave mariners of Columbus are in any way responsible for the introduction of syphilis into Europe, they will, we are sure, be convinced to the contrary when they have read this irrefutable argument.

COLOR-VISION AND COLOR-BLINDNESS. A Practical Manual for Railroad Surgeons. By J. Ellis Jennings, M.D. (Univ. Penna.), Formerly Clinical Assistant Royal London Ophthalmic Hospital (Moorfields), etc. Illustrated with One Colored Full-Page Plate and Twenty-one Photo-Engravings. Crown Octavo, 110 pages. Cloth, \$1.00 net. Philadelphia: The F. A. Davis Co.

The discovery that many accidents were due to color-blindness of employes of railroads and steamboats was a most valuable one for the traveling public, and the reform which has followed in its wake has been very salutary.

In the volume before us the author goes into the subject exhaustively, giving first a historical sketch, then an account of the physiological anatomy of the retina, the physics of light and color-sensation, the theories of color-perception and color-blindness, the methods of detecting this serious defect, the instruction for the examination of employes of the Pennsylvania Railroad Company and a description of Oliver's series of tests. We know of no book which handles the subject in a better or more thorough manner for the practical man.

THE NATIONAL FORMULARY. New and revised edition. Supplement to the National Dispensatory. Lea Brothers & Co., Philadelphia and New York, 1896. Pp. 115.

The National Formulary is a supplement to the National Dispensatory, the fifth edition of which has been enlarged and revised in accordance with the seventh decennial revision of the U. S. Pharmacopœia. It contains the unofficial preparations and is indispensable to the pharmacist and of value to the physician.

COMPLETE CATALOGUE OF THE PRODUCTS OF THE LABORATORIES OF
PARKE, DAVIS & Co., 1896. Pp. 268.

In this catalogue will be found a full list of the products of the laboratories of this firm with the prices of the same. Those who are interested in botany will find that both the common and technical names of plants have been given. The extension, of late years, of drugs used in the treatment of diseases is thoroughly represented in the products of this well-known firm.

One of the most recent of them is yeast nuclein, of which Dr. Charles W. Hitchcock of Detroit, in the American *Lancet*, speaks so encouragingly in the treatment of hip-joint disease, and of which he says in January, 1896:

"This patient was kept under frequent observation until May, 1895, the splint having been discarded some time earlier. In May, first one crutch, then both, and later the cane were dispensed with, the injections of nuclein were discontinued, and the patient has since walked through the Summer and Fall without support of any kind, and without any discomfort whatever in the hip. She has been very happy and grateful for her relief from pain, and it has been delightful to see her evident joy in her ability to walk without suffering. Indeed she has been altogether a pleasing fulfilment of what I hoped to do when I first reported the case in January, 1895, and this excellent result I attribute very largely, if not entirely, to the long and persistent use of nuclein."

URIC ACID AS A FACTOR IN THE CAUSATION OF DISEASE. By Alexander Haig, M.A., M.D., Oxon., F.R.C.P., Third edition, with 54 illustrations. Philadelphia: P. Blakiston, Sons & Co., 1896. Pp. Price \$3.00.

The third edition of this well-known work contains cumulative evidence of the theory of its author that many diseases are due to uric acid, and it is gratifying to find that "our power of control over these diseases is also to a corresponding extent becoming greater and more valuable."

Among the new experiments recorded are those in temperature, menstruation, and fatigue.

MISCELLANEOUS.

H. BEECKMAN DELATOUR, M.D.

Dr. Delatour has recently been appointed Surgeon to Long Island College Hospital.

CHANGES OF ADDRESS.

Dr. W. H. Bates has removed to 137 Clinton street; Dr. J. E. Sheppard, to 135 Clinton street; Dr. J. M. Winfield, to 1273 Bedford avenue; and Dr. R. H. Pomeroy, to 1081 Bergen street.

CHARLES A. L. REED, M.D.

Dr. Reed of Cincinnati, so well known as the efficient manager of the First Pan-American Medical Congress, has been selected by the European Committee on Organization of the International Periodical Congress of Gynecology and Obstetrics, as Honorary President of the meeting of that body to be held in the City of Geneva, Switzerland, the first week in September of this year.

...

CIRCULAR REGARDING A HIGH GRADE OF
ANTITOXIN.

As the efficiency of antitoxic serum as a curative and prophylactic agent depends not upon the amount of the serum used, but upon the quantity of antitoxin held in solution, it is obviously desirable to use serum which contains the largest possible proportion of antitoxin, as thereby a given effect may be produced by a comparatively small injection containing the minimum amount of substances other than antitoxin.

Recent developments in the technique of preparing toxins have rendered it possible to produce a diphtheria toxin of a very high degree of virulence which induces a high grade of immunity in horses on account of the production of a large proportion of antitoxin in the blood-serum.

Hereafter, the serum issued by this Department under the white label will contain 200 units to each cubic centimeter, or 2000 units to the vial of ten cubic centimeters, which is just double the strength of that heretofore issued. Serum of a still higher grade, 2000-3000 units to the vial, will be issued in smaller quantities under a blue label, and is intended for use in severe cases only. The white label serum will be known as grade No. 1, the blue label as grade No. 2. The average curative dose of diphtheria antitoxin is about 1000 units, but in severe cases or when the serum is not used until late in the disease, a larger dose, 1500 to 2000 units, is required.

The new serum will be furnished without charge to hospitals, dispensaries and physicians if application therefor is made at the office of the Department of Health. In order that reliable statistics may be obtained, physicians who use the antitoxin issued by this Department are requested to fill out the form accompanying each vial and to forward the same to Dr. E. H. Wilson, Chief of the Bureau of Bacteriology, at the Hoagland Laboratory, Henry and Pacific streets. *Physicians who fail to make these returns will be unable to obtain further gratuitous supplies of antitoxin.*

Z. TAYLOR EMERY, M. D.,

Commissioner of Health.

THE JENNER OF AMERICA.



B. Waterhouse. M.D.



WALTER A. MORTON, M.D.

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

THE TETANUS BACILLUS.

J. M. VAN COTT, JR., M.D.

(Concluded from page 347).

A CASE OF TETANIC HYDROPHOBIA OR CEPHALIC TETANUS.

On the 23rd of July, Herbert Dietrich was brought to my office, apparently suffering from muscular twitchings of face and neck and a general irritability of temper in connection with attacks of screaming without any apparent cause. Patient is four years of age, has a healthy and strong appearance and has had no infantile diseases except a slight skin eruption, which would come and disappear again. Father and mother are both living and in good health. The muscular twitchings are on both sides of the face, the mouth, however, being drawn slightly to the left side. On the base of the nose is a white pimple, which the mother claimed the boy had had for about ten days. Patient was around and would answer questions willingly and did not complain of pain anywhere in his body. Three days later patient returned and was in a very much changed condition. Most marked was

paralysis of muscles of the right side of the face, the side being swollen and smooth, the mouth was drawn to the opposite side. Forehead on the left side in wrinkles. The upper eyelid of affected side dropping over the eye. Muscular twitching of the muscles of left side of face and neck continued and more marked than before. He now complained about pains in the back and general stiffness of legs and arms.

On the 28th, while sitting at dinner table, he suddenly was thrown into violent spasm while eating. The spasm especially involving muscles of deglutition and mastication and those of the neck, his head being drawn backwards with jaws firmly locked. This attack lasted about ten minutes, then the muscles of neck and back relaxed but his jaws remained closed. Profuse flow of saliva set in on the same evening, and the spasms returned twice during the night. The next morning when I saw him he was unable to speak or open his mouth. On being told to shut his eyes he closed the left eye quickly, the right eye more slowly and with difficulty. His forehead was wrinkled on the right side. His spinal column was curved forward and the muscles of the back were in a rigid condition. Patellar and Achilles tendon reflexes were absent. Pupils normal. On stroking the abdomen, testicles retracted. His temperature was $99-101^{\circ}$ and his pulse 110 during this period. On Dr. Browning's suggestion I chloroformed patient in order to examine his throat but found no indications of abscess anywhere. During the following two weeks all the symptoms increased in severity, the child's body being constantly in opisthotonos so that a pillow had to be put under his back for support. Gradually the abdominal muscles were involved and especially those of the lower extremities, legs being drawn outward with feet pointed towards each other. During the paroxysm, abdominal pressure was so great that urine was voided involuntarily in a stream. His face was deeply cyanosed and eyes staring during the attack. Patient was unable to swallow any food. Two incisor teeth were missing and milk was given him through a tube. Each effort to swallow brought on a spasm, which now lasted from ten minutes to an hour. Muscles of the arm, which were not involved up to the last few days, contract now also during the paroxysms, which came on very frequently, thirty to forty during twenty-four hours. His pulse remained high, 120 to 160, and small during the entire course of the disease. His temperature varied between 99° and 101° . Constipation was

also marked throughout. The patient died on the 25th day of August during a very severe convulsion.

The treatment consisted in keeping patient absolutely quiet, giving of warm baths, chloral hydrate, and bromide of potassium in large doses per mouth and also per rectum.

His nourishment consisted of peptonized foods, stimulants, and milk, which had to be given through a tube. Patient being anxious to take it, but at the same time fearing to swallow it, as a paroxysm was sure to follow.

One of the nurses was scratched by the boy on the 22d of August on the hand and forearm, but paid no attention to it.

On the 28th I saw her with several white pimples on the hand and an acute lymphangitic appearance involving axillary glands. She complained about chills, giddiness, difficulty in swallowing and stiffness in neck and limbs. I scarified the skin of hand and forearm freely and applied bichloride solution $\frac{1}{750}$. On September 1st she was unable to rise and had several slight convulsions which passed quickly over and have not returned since. An abscess developed in the axilla and one of the inguinal glands was very much inflamed and swollen when I saw her last. Have not heard from her lately, as she lives out of town and I do not know anything about her present condition.

"A Case of Cephalic Tetanus," by Dr. H. Lange, "Report of a Case of Tetanus Treated with Antitoxic Serum," Dr. H. T. Rhodes, Kings County Hospital.

Dr. William Browning: Mr. President, I might say a few words with regard to these two cases. The type of cephalic tetanus which Dr. Lange has described belongs to one of the rarer forms of tetanus. It seems that there are cases, only a few, in which the disease is attended by paralysis, limited paralysis, and in nearly all cases this is of the form that he described, in which one facial nerve is affected. In such cases that is often the initial symptom, and it is not until later that the true nature of the trouble appears. In still rarer cases there has been observed paralysis of eye muscles, or of both facial nerves, or occasionally of an arm; but those are so rare as to be little more than accidental.

In all the cases of this type there has been found a slight injury, I think always in the region of the fifth nerve; it may be hardly more than a prick or a pimple, but always somewhere in the vicinity of the face or front part of the scalp.

This form was first described by Rose in Pitha-Billroth's well-known work on surgery. Up to about 1889 the number of cases

that had been reported amounted only to twenty-four of this particular type of so-called cephalic tetanus, and the recoveries in the milder cases, those running a slow course, were about one-half, but those running a rapid course were almost always fatal. It was originally thought that perhaps it was a reflex trouble because there was so slight an injury as hardly to seem possible to produce an infection, and in fact, in so many cases it had already healed before the disease appeared.

I think in 1892 or thereabouts, Nicolaier demonstrated that this form of tetanus was also due to the same bacillus as the common form. He was only able to demonstrate it by taking pieces of the skin from the region of the primary injury. He made cultures and found it microscopically.

From this country there have been hardly any cases reported so far as I know, further than one in 1890 from Havana, that seemed to be, from the description, a true case. In 1892, Putnam of Boston reported before the American Neurological Association a case which he called cephalic. But according to the abstracts of his description it was simply a case involving muscles about the head, yet not having the particular characteristic of facial paralysis.

The cases occur in persons of all ages, but not much in young persons; only one or two in patients younger than that described by Dr. Lange.

As to the use of antitoxin, I do not know that there is much to be said. The value of this remedy is still such an open question that it is used solely in order to report cases where it is employed. It appears, from the reports of its use, that after the tetanus infection has existed for some days the results are very poor. Where it can be used in a fresh case the percentages seem to show a fair amount of good. But it is nothing like a radical cure or a sure cure; it only helps to increase the proportion of cures a certain amount. The very best statistics only give fifty per cent. Such being the case, we are bound always to utilize all the rational means devised heretofore in the treatment of tetanus; to keep the patient as quiet as possible, to prevent all noise and jar, and to keep them usually in a darkened room. Occasionally it happens that a patient is better in a room moderately illuminated, as the darkness seems to act as a positive irritant, but that is exceptional and not the rule. Then the use of such drugs as chloral and sedatives is eminently proper.

REPORT OF A CASE OF TETANUS TREATED BY ANTITOXIC SERUM AT THE KINGS COUNTY HOSPITAL.

Dr. H. T. Rhodes : The history of the following case reported this evening is one of especial interest inasmuch as the treatment adopted is entirely new, namely by injection of tetanus antitoxic serum. Albert Erb, a farmhand, age thirty-six, was removed from his home, Sixtieth street, Blytheburne, to the Kings County Hospital, Friday, July 19, 1895, and the following history obtained :

On the evening of July 14, 1895, while eating his supper, he experienced some difficulty in masticating and swallowing his food, with a slight stiffness of the neck, and on the following morning was unable to move any part of his body, the muscles being in a state of tonic contraction with paroxysms of severe spasms recurring about every thirty seconds, leaving him in a somewhat exhausted condition, with a bruised feeling of all the muscles. Perspiration was excessive from the beginning, causing intense thirst, scant and high-colored urine. Bowels were constipated. Liquid food in small amounts could be taken with a little difficulty.

A doctor was called on the 16th of July, who pronounced the case as one of stiff or wry neck and prescribed hot mustard poultices.

His condition gradually growing worse, he was removed to the hospital and presented the following symptoms :

The entire body rigid with anterior arching of the spine, head extended, jaws set, arms semi-flexed, legs extended, thoracic expansion greatly impeded, causing rapid and shallow breathing, and persistent tension of the facial muscles, giving the countenance a strange immobility.

Pupils were slightly contracted, even and active. Temperature 100 $\frac{2}{3}$, pulse 104, full and strong, respiration 22.

His mind was perfectly clear, but speech difficult on account of set jaws, and the severe clonic spasms which would occur whenever he attempted to speak.

Paroxysms of spasms of the entire body occurred every fifteen or twenty seconds, which were very severe, causing slight opisthotonos and sharp, shooting pains in the groins and inner surface of the thighs.

On the anterior middle portion of the left leg there was found an inflamed ulcer about three inches in diameter with irregular,

ragged and undermined edges and floor, from which an abundance of creamy and foul pus was constantly exuding.

Urinary examination proved negative as to albumin and sugar, but phosphates and chlorides found in abundance.

Respiration very excessive and of a slight acid reaction.

Treatment was as follows :

Removal of the patient to a quiet room, and thorough cleansing and disinfection of the ulcer with five per cent. carbolic solution and peroxide of hydrogen, which was repeated every three hours. Bowels moved by the administration of calomel gr. x, and jalap gr. v.

Milk and eggs were given every 3½ hours in small quantities.

By the advice of Dr. Browning, who saw the patient shortly after admission, four bottles of "Gibier's Antitoxin Serum," each containing about 22 c.c. were obtained and treatment commenced at 1 P.M. by injecting subcutaneously 12 c.c. of the serum in the right lumbar region between the twelfth rib and crest of the ilium; 47 c.c. of the serum were used during the first twenty-four hours, injecting alternately in the right and left lumbar regions.

No inflammatory reaction occurred at the site of the injections.

Improvement in the patient's condition commenced four hours after the first injection, the clonic spasms lessening in severity and frequency, recurring every three to five minutes. Temperature and pulse remained about the same, but the respiration increasing in depth and lessening in frequency, the patient experiencing considerable relief.

On the second day, July 20th, 30 c.c. of the serum were injected.

Patient continued to improve, the spasms recurring every fifteen or twenty minutes, and could now move his upper and lower limbs a little. The jaws could be opened about one inch, enabling him to take nourishment better. Perspiration greatly diminished with increased urinary secretion. Temperature 100½, pulse 110, small and full, respiration thirty, deep and free. A fine vesicular rash was noticed scattered over the entire neck and trunk which caused no discomfort. Patient slept about three hours during the second day.

On the third day, July 21st, 10 c.c. of the serum were injected, which was the last given.

All the symptoms continued improving up to the evening of

the fourth day, July 22d, when the patient had a sudden rise of temperature, 104° , with a pulse of 140, and weak, and respirations 45, full and deep, but complained of no pain or discomfort.

A few râles could be heard at the base of both lungs but no consolidation found; tr. digitalis 5 m. and spts. vini gall. $\bar{\text{z}}$ ss., were given every four hours. Ice and alcohol sponge baths were given every two hours, after which the patient would fall into a gentle sleep of about an hour's duration. Nourishment consisted of liquid beef peptonoids given in small amounts every three hours.

The spasms now recurred every half to three quarters of an hour, but were very mild and short in duration.

Patient could now move all of his limbs, and open and close his mouth quite freely.

On the evening of the fifth day, July 23d, patient commenced growing weak, the heart's action growing rapid and feeble, beating 160 to the minute, respirations 70, which were shallow and labored, with numerous fine râles heard at both bases. Temperature $104\frac{1}{2}^{\circ}$.

His condition grew steadily worse during the night, becoming cyanosed with extremities cold, eyes opened and fixed, unconsciousness occurring several hours before death, which occurred at 9:30 A.M. July 24th, the fifth day of treatment and the tenth day of the disease.

Post-mortem examination showed moderate congestion of all the thoracic and abdominal organs.

Both lungs in a state of catarrhal pneumonia.

A septic infarction, about 2 c.m. in diameter, found in the posterior portion of the upper lobe of the left lung. Heart and abdominal organs apparently normal. The dura and pia maters somewhat congested. Brain substance normal. Medulla oblongata everywhere congested especially in the vicinity of the pneumogastric nucleus.

Dr. James P. Warbasse: Mr. President, I have followed with a great deal of interest the work which has been done, especially by Behring, in the line of making an antitoxin for the treatment of tetanus; and the work which that particular observer has accomplished certainly commands our greatest admiration.

The outlook for an antitoxin which shall control this exceedingly fatal disease, it seems to me, is a very hopeful one. The cases which have been reported by Tizzoni, Behring, and other observers in that line are very encouraging. The matter of the

expense of producing the antitoxin, of course, is a practical question, but in the course of time, I presume that it will be brought down to a very practical process.

The literature contains some exceedingly interesting reports of cases successfully treated by this method. I shall not cite any of them, but would like to call your attention especially to a case which was not cured by the antitoxin, but which is of very great interest for the reason that it shows the power of the antitoxin, which is produced by Behring, of controlling the toxic products of tetanus.

The case which I refer to was one which occurred in the surgical clinic at Greifswald, and was referred to by me in an editorial article on "Immunity against Tetanus," which I published in the *Annals of Surgery*, June, 1894. It was the case of a young boy who developed tetanus following a compound fracture of the leg. The onset of the disease was extremely violent. His dressings were changed under an anesthetic, and while he was under its influence the experiment was made of extracting from one of his veins some 60 c.c. of blood. After this blood had been removed he was injected with 10 c.c. of Behring's antitoxin. Within an hour, the symptoms having continued to progress unabated, he died. This case was made the starting point of some exceedingly interesting observations. The granulations from the seat of the compound fracture were introduced under the skin of mice, and these animals developed tetanus in a very short time and died from that disease. The blood, which had been removed from the vein before the injection of the serum, was allowed to stand for twenty-four hours. The supernatant serum was found to be sterile, and this was injected in guinea-pigs and mice. In one guinea-pig was injected 1 c.c.; in a mouse was injected 0.5 c.c., and under the skin of another mouse was introduced some of the blood clot. These animals, all of them, developed symptoms of tetanus, which progressed rapidly to their death. From the vena cava of the corpse was removed some blood under strictly aseptic precautions, and this blood was treated in precisely the same way as the blood which had been removed before the antitoxin was injected. Guinea-pigs and mice of the same physical types, as those used in the above experiments, were injected and treated with the same amount of this serum and blood as had been the case with the previous animals. The mouse which had injected into it 0.5 c.c. developed convulsive movements, which ceased in the course of a few hours, and it made an ultimate recovery.

Neither of the other animals developed any symptoms whatever. It seems to me that these particular experiments are of a great deal of interest and importance, demonstrating the power of the antitoxin to antagonize the toxic properties of the tetanus ptomaines.

My own experience—my personal observation of this disease—has not been extensive, but I have jotted down the notes of the few cases which have come under my observation, some of which are of extreme interest.

The first one, of which I shall speak, is that of a young man, eighteen years of age, who had a perforating wound of the sole of the foot, which healed and left scarcely any sign of a scar. His first symptoms of tetanus developed on the seventh day, when he had spasms, which began in the back of the neck, which soon went on to opisthotonos and general involvement of the trunk and extremities. He was treated by isolation and quiet, and given doses of sodium bromide and chloral, and on the third day he died.

Another case is that of a young boy who had a lacerated wound of the hand. His symptoms also developed on the seventh day. He was treated in the same way, by quiet and sedatives, and died at the end of four days. His spasm also began in the back of the neck. The extensor spinal muscles were involved, as were the flexors of the lower jaw.

Another case is that of an Italian, thirty-one years of age, who sustained a punctured wound of the sole of the foot. This wound healed and left scarcely any scar. On the seventh day he developed a rigidity of the muscles of the lower jaw. Following this was contracture of the muscles of the back of the neck, and he experienced pain in the scar. In this particular case, I excised the scar under cocaine. The symptoms, however, progressed without any change and terminated fatally on the third day after the onset of the tetanic symptoms.

Another case is that of a boy, thirteen years of age, who sustained a compound fracture of the leg. In this case the ends of the bones had been driven through the skin and were ground into the earth so that the wound was full of dirt. The wound never did well. It did not suppurate, but it never looked like a healthy wound. He had no special temperature, but the wound did not present a healthy appearance. On the eighth day this case developed cramp-like contractions of the muscles of the calf of the leg. On the tenth day the muscles of the lower jaw and of the

back of the neck were involved. On that day amputation of the thigh was done. The symptoms went on unchanged, and on the twelfth day he died.

Another case is that of a man, twenty-four years old, who sustained a wound of the hand. The first symptoms appeared on the eleventh day, the wound having been dressed and having healed promptly. On the eleventh day he developed pain in the hand, followed by pain in the neck, which extended to the back, opisthotonos developed and soon there was involvement of the whole trunk and extremities. His symptoms progressed very rapidly. On the third day this case was injected with 25 c.c. of the tetanus antitoxin serum prepared by Dr. Gibier of New York, in divided doses, in three doses, so that he received 25 c.c. on the third day. On the fourth day he was injected with 25 c.c. more; on the fifth day he was injected with still 25 c.c. more. The injection of this serum was followed by absolutely no change in the progress of the disease. It is a well recognized fact among bacteriologists that there are animals which are immune by nature to certain infectious diseases. When the blood of these animals is injected into susceptible animals the susceptible animals are rendered less susceptible to that particular disease. Working upon that idea, the patient was on the sixth day treated as follows: The common chicken, we know, is not susceptible to tetanus, and the blood of five chickens was taken, under strictly aseptic precautions, defibrinated and yielded about one-third of a liter. This third of a liter of defibrinated blood was mixed with two-thirds of a liter of warm normal salt solution, bringing the whole amount up to a liter, which amount was injected into the median vein of the arm. This too caused absolutely no change in the progress of the disease. The disease went on precisely as the previous cases which I have mentioned, and terminated fatally on the sixth day.

The case which was treated by the tetanus antitoxin occurred in the service of Dr. Fowler in the Methodist Hospital, and all of the other cases, except one, occurred in the service of Dr. Pilcher in the Methodist Hospital. The other case is one which I saw in consultation in private practice.

The question of interest, which occurs to me in connection with these cases, is the question pertaining to the localization of the action of the toxin. Experiments seem to have demonstrated that the toxin of tetanus does not act upon the muscles, that it does not act upon the peripheral nerves, but that its action is en-

tirely upon the spinal cord ; and a great many elaborate experiments have been made to demonstrate this. The thought has occurred to me in connection with these particular cases, then why should a number of them have developed their first tetanic symptoms about the locality of the wound, about the focus of infection? In the case of the boy, who had a compound fracture of the leg, the first tetanic symptoms were spasmodic contractions of the muscles of the calf of that particular leg. In the two cases which I have cited, in which the infection occurred in the hand, the first symptoms were pain and spasmodic contraction of the muscles of the infected hand. If the toxin of tetanus acts only upon the spinal cord, it would certainly produce a bi-lateral symptom, and we should not expect, under such circumstances, to find a manifestation of the disease first in one side about the seat of the wound. It would seem from this, that although the poison does not act generally upon the spinal centers, at the same time it is possible that there is an irritating action of these toxic products upon the muscles themselves, a local action of the ptomaine of tetanus.

Dr. Geo. E. West, Secretary of the Board of Health ; Mr. President, I have nothing particular to say as to the pathology of tetanus, not having given it any especial study, but I was requested by you to look up the statistics of the subject and I have found there have been, since 1879, about ninety deaths from tetanus reported in this city, or an average of about six a year. It happens that this year leads, having almost double, up to the present time, the number of deaths from tetanus of any other year.

The figures, as I have found them, and I presume they are approximately correct, because one does not frequently make a mistake in such a disease as tetanus, are as follows :

In 1880.....	Three.
1881.....	Six.
1882.....	Four.
1883.....	Seven.
1884.....	Six.
1885.....	Nine.
1886.....	Two.
1887.....	Six.
1888.....	Three.
1889.....	Two.
1890.....	Two.

1891.....	Seven.
1892.....	Seven.
1893.....	Four.
1894.....	Eight.
1895.....	Fourteen, up to the present time.

Most of these deaths this year have occurred within the last three months. We have had as high as three reported in one week in July.

In looking over the months, in which these deaths occurred I have totaled them up and find that

In January there were.....	Two.
February.....	Two.
March.....	Three.
April.....	Ten.
May.....	Seven.
June.....	Eight.
July.....	Twenty.
August.....	Fourteen.
September.....	Seven.
October.....	Seven.
November.....	Six.
December.....	Four.

I presume the high mortality in July and August was due to the 4th of July. The present year does not show that any particular locality in Brooklyn is to blame. Of the fourteen deaths that have occurred, hardly two have occurred in the same ward. They have occurred all over the city.

VERATRUM VIRIDE IN ECLAMPSIA.

Dr. Chas. Jewett is engaged in collecting statistics with reference to the value of veratrum viride in the treatment of puerperal convulsions. He will be glad to receive brief reports of cases from physicians in Brooklyn who have had experience with the drug. What is especially desired is a statement of the number of convulsions in each case before the veratrum was administered, the quantity of the drug used, the mode of administration, and the results obtained. Due credit will be given.

SURGICAL TREATMENT OF HEAD INJURIES.

BY F. G. WINTER, M.D.,

Brooklyn, N. Y.

Surgeon to the Eastern District Hospital.

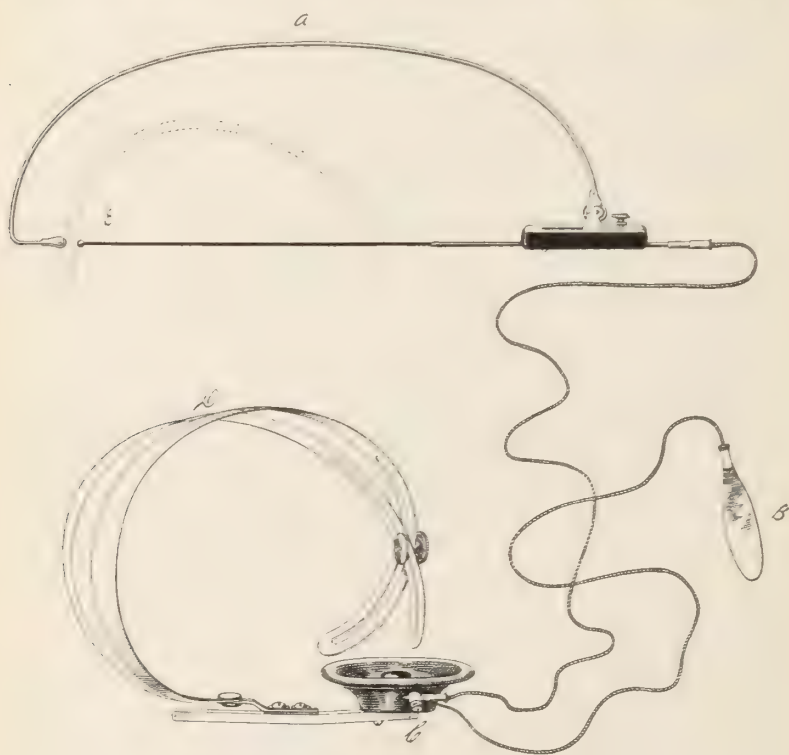
Read before the Brooklyn Medical Society.

(Concluded from page 354).

The foreign substances most often calling for operative interference for their removal from the head are bullets. No matter how much a bullet may deflect in its course before entering the brain, the supposition always is, that when once it has entered the brain, it will pass straight through it, consequently, that it will impinge upon the skull at a point opposite to that at which it entered. Here, it may either perforate and pass out; it may remain resting against the bone, or it may be reflected into some other part of the brain, where its presence may or may not be indicated by focal disturbances. It is now generally considered necessary to trephine, not only at the point of entrance, on account of the comminution of the bone, but also at that point upon which it will impinge. The detection of this point has not always been an easy matter. Bryant's method of finding this second point, was by means of lines drawn meridianally, their common center being the point of entrance, which is known, while the location of the point sought is made known by the place at which these lines converge. This method has not given entire satisfaction, and for that reason, at my suggestion, Tiemann & Co. of N. Y. have made a caliper bullet probe and attached to it Girdner's telephonic apparatus. Dr. Geo. R. Fowler of this city, has invented a very ingenious instrument called the graduated pressure probe. It consists of a slender stem with an insulating covering of rubber, designed to prevent errors in locating the missile, arising from contact with portions other than the tip. The stem has a bulbous tip, which is designed to follow the track of a bullet from twenty-two caliber upward. The handle is of hard rubber, is hollow, and slides upon the stem against the pressure of a spiral spring which surrounds the latter. An indicator upon the stem, and a scale, marked in fractions of an ounce upon the

handle, record the exact amount of force which is being exerted upon the probe within the limits of the compressibility of the spring. The latter is so arranged that it is within the safe boundaries, prescribed as the results of Ruth's experiments. The probe is to be used in the horizontal position, in order that the question of the weight of the instrument need not enter into consideration. (*Annals of Surgery*, November, 1895).

I have been so favorably impressed with the pressure gauge probe, that I have had my trajector or caliper probe attached to it. The trajector consists of a solid bow of aluminum with a bulbous tip on the distal end: the proximal pole is hinged to a



TRAJECTOR APPLIED TO PRESSURE GAUGE PROBE.

small steel plate, which is rabbeted to fit a groove on the sliding handle of the pressure gauge probe. The portion of the stem of the probe projecting beyond the handle is for the attachment of the telephonic apparatus. Instead of the hand receiver, which

Girdner uses, I have rented one of the head receivers used in the telephone exchanges, which leaves both hands of the operator free. (Girdner's telephonic apparatus consists of a receiver, conducting wires, bullet probe, and mouth-piece.)

The instrument is to be used in the following manner : Place the mouth-piece, connected to the receiver by one of the conducting wires, in the patient's mouth between the teeth and the cheek. The operator places the receiver to his ear, and fastens it to his head, by means of two steel springs attached to the receiver. After trephining and removing all fragments of bone, and enlarging the opening in the dura if found necessary, the probe is passed into the wound in search of the bullet. The pressure gauge on the handle of the probe will indicate whether we are within the safety limit or not, as a pressure exceeding one and a half ounce is required, to force the bulbous tip of the probe (three-sixteenths of an inch in diameter) into the brain or between the convolutions. (Ruth.) Nothing will be heard until the probe touches the bullet, when there will be a distinct rasping, grating, or clicking sound in the receiver, and you know that the probe has located the missile. The lighter the contact of the probe with the bullet, the louder the sound heard ; while continuous contact of the probe with the bullet produces a continuous current, and no sound is heard in the receiver. The interrupted current produced by making and breaking the contacts when the probe is gently passed over the little irregularities on the surface of the bullet, is what produces the sound in the receiver at the ear.

If a ball lodges in the brain near the wound of entrance, it may be extracted through this wound ; but if it has penetrated so far as to be more easily removed from the opposite side of the skull, a counter-opening should be made at the point at which the probe would emerge if it were carried through the head. It is important, therefore, in using the probe, to measure its length, and when the probe has reached the ball, to measure the protruding portion, which will give us the depth at which the ball lies from the wound of entrance. Then, pushing the probe on until it rests against the skull opposite the point of entrance, and again measuring the part which protrudes from the wound of entrance, we ascertain the depth at which the ball lies from the point where the counter-opening is to be made. If we now apply the trajector to the handle of the probe, and allow it to fall into position, the bulbous tip will give us the exact point at

which the counter-opening is to be made. After the ball is extracted, a drainage tube should be drawn through the brain, and the track made by the ball, thoroughly washed out with warm sterilized water.

In Fluhrer's remarkable case, the ball entered the forehead, struck the occiput, and rebounded in a track determined, first, by the natural angle of reflection, and second, by the influence of gravity. He made a counter-opening, and found the wound made in the meninges, by the ball on striking the inner surface of the occiput: and from this, as a new point of departure, made another search in the manner above indicated, with the result of not only removing the ball, but also of saving the patient.—(*N. Y. Medical Journal*, March 28, 1895).

After applying the usual antiseptic dressings, the patient is to be placed in bed with the head raised, kept absolutely quiet, and upon a light but nutritious diet. If a rise in temperature occurs, it is probably due to either septic meningitis, or infection of the external parts. In either case, the dressings should be removed, and the wound inspected and thoroughly cleansed.

THE TREATMENT OF CYSTITIS.

BY L. GRANT BALDWIN, M.D.

Gynecologist to St. Peter's Hospital, Brooklyn.

(Concluded from page 340).

DISCUSSION.

Dr. Wm. Maddren: I think the paper is an excellent one. I have treated patients somewhat similarly, substituting eucalyptol for the sandalwood oil. I think there is not much difference in the two remedies. The other methods of treatment the doctor has indicated I have used and can corroborate what the doctor has said, particularly of the acute form of cystitis.

Dr. Dickinson: I would like to ask Dr. Baldwin whether he has found much difference in the different preparations of sandalwood oil. The accusation is made that we are liable to run against very impure and irritating preparations, and I think a good many of us are a little particular about the quality of the oil we get, at least I know that the genito-urinary men have generally specified their variety. Dr. Skene taught me the use of this remedy, though I think not in so large doses or else I did not

comprehend his method; years ago I received much benefit from it and I am glad to hear of such vigorous doses giving such good results. Personally I have been used to rely on the dilution of the urine with such measures as a milk diet, or possibly the use of lithia, caffenin, or some alkali to aid in diminishing the irritating condition of the urine.

Dr. Skene: I am very much interested in the paper of Dr. Baldwin and I am indebted to him especially for one point, and that is the large doses he uses. I have used the sandalwood oil considerably and I may say always with some benefit at least, especially in the catarrhal variety or stage of cystitis. In the suppurative form, where there is a large quantity of pus in the urine, the sandalwood oil has not been quite as satisfactory. I find, however, that I may not have done the remedy full justice, for the reason that I have not given it in sufficiently large doses. I have found that if there is any kidney trouble, renal insufficiency, I should say that the sandalwood oil is a little dangerous. I think I can say that the quantity of urine secreted may increase or not diminish under the use of this remedy, the quantity of urea eliminated is apt to diminish, and therefore I have been a little timid about it, especially when I had any reason to suppose that there was some commencing nephritis. My timidity then has prevented my doing the remedy full justice. I shall be a little more courageous now with Dr. Baldwin's experience, and that is the point I am glad I have obtained.

Another point is this: In the acute, and indeed in every variety or form of cystitis, I think it is very important to ascertain the condition of the kidneys so far as concerns the secretion of acid or alkaline urine, for many of these acute cases are very much relieved by devoting attention to neutralizing the urine when it is exceptionally acid as it sometimes is.

Speaking of cases after operation, as referred to by the writer, that develop cystitis from the rough use of the catheter or the use of a filthy one. I may say that there are few cases after operation that need catheterizing. The kidneys not doing their full duty or not performing their function perfectly the urine is often scanty, loaded with urine salts, and so abnormal as to be in itself a cause of cystitis. I do not know from my own observation that the Santal Midy would correct that condition of the urine. So that I have differed perhaps a little from the doctor in treating those acute cases he has referred to. I have always investigated the condition of the urine, and if acid or scanty or

loaded with solid constituents—uric acid crystals especially are injurious—I have generally put them on some alkaline treatment, and I know of nothing better than the old-fashioned citrate of potash. When the urine is normal, or nearly so, I begin the use of the sandalwood oil. I am sure that it is beneficial and I do not know how to account for it. I do not know that it is necessary that we should know the way in which it acts. It is sufficient to know that it acts well.

There are two things relating to this subject that I have put on record and am responsible for, and one of them I am glad to find is borne out by Dr. Baldwin's cases. The first is that surgical interference or local treatment, is as a rule, far more dangerous than medication such as he has used and recommends in acute cases and in many of the chronic cases. If I had a friend with cystitis that I was interested in I would rather trust her in the hands of the physician than the surgeon; perhaps I should say that I would rather trust her in the hands of a judicious physician, who knew when surgical treatment was necessary and when it was not. I am sure that many of these cases are made very much worse by beginning local treatment too soon. It is always better, I believe, to rely upon medication at first, and there is no better medication than what the writer has suggested.

In references to the cases reported as relieved by dilatation of the urethra. I may say that I am responsible for the statement that there has never been a case of cystitis cured by dilatation of the urethra, by which you see I have apparently come in conflict with Dr. Baldwin. But I believe that we are quite in accord. He stated that the inflammation was at the neck of the bladder and the upper portion of the urethra in the cases treated by dilatation. I do not look on these cases as cystitis, although they are usually called such because they present the clinical history of cystitis, frequent and painful micturition, but they differ from the ordinary cystitis in this, that after urinating the vesical tenesmus is greater, whereas in ordinary cystitis it is sometimes relieved for a few minutes until the urine accumulates. That is about the only point of difference in the clinical history. Now I would call all of these cases urethritis where the inflammation is limited to the neck of the bladder and upper third of the urethra, all that portion which comes within the grasp of the sphincter of the bladder and not involving any portion of the bladder beyond it. In such cases dilatation gives great relief and sometimes, in fact, completely cures. If it fails they are generally a good deal worse.

If dilatation is made in cases in which, while the urine is still abnormal, they are made very much worse.

I have had the opportunity of examining the neck of the bladder in many of these cases and found that the disease did not extend beyond the rugosities formed by the constriction of the neck of the bladder, and that the bladder mucous membrane itself was normal. Dilatation relieves them just as fissure, that most painful affliction of the rectum, is relieved by dilatation of the sphincter. The dilatation does not need to be pushed to a dangerous extent. There was a time when the urethra was dilated for diagnostic purposes and a great many of them had incontinence afterwards, an incontinence that was permanent in some of these cases, I believe. It is not necessary to dilate to such a degree as to rupture the muscular fiber, but to paralyze it for the time being by slowly and gradually expanding it.

I think Dr. Baldwin said he preferred Kelly's dilator. If I understand Kelly's dilator rightly, it is not the best instrument he uses, for it is a conical arrangement and simply dilates the lower portion of the urethra. I prefer, if I have not anything else handy, to cover the blades of a forceps with clean thoroughly sterilized rubber tubing and pass that in and then dilate. If I have at hand a bivalve urethral speculum I can cover that with rubber and use that as a dilator.

It is also very necessary to have a dilator, whether it is the forceps or the urethral speculum, that dilates with the blades parallel or as nearly so as possible. The forceps does not do that but it dilates the upper portion of the urethra most where you desire the most dilatation, and if you withdraw the forceps and dilate the lower portion with a speculum you can get pretty thorough and safe dilatation.

One point more, sir, and that is with reference to the glass catheter. Kelly of Baltimore was, I think, the first to use the glass catheter because it was cleaner and easier to use, and I have no doubt it is an admirable instrument in the hands of expert operators. It is not an instrument I would trust to the average nurse. Any instrument that can possibly cause traumatism will be made to do so in the hands of the average nurse. I do not know why it is, but I have seen so much harm done with the old-fashioned silver female catheter that I abandoned that long ago. When the glass came in it saved trouble of sterilizing, and I use it now in ordinary cases, but I never trust it in the hands of a nurse, even an expert. I have one nurse who is an expert in

her practice who catheterizes as well as anybody and as carefully and yet with that one I am afraid to trust this solid glass catheter. There is nothing better than the perfectly soft catheter, the only objection to which is that it is so difficult to keep clean and has to be boiled thoroughly for a long time. No aseptic or antiseptic solution will keep that clean because the bacteria burrow in the tissue of the soft rubber and they become foul in a very short time; but if boiled every time they are used they are safe enough.

I hope that the doctor made a mistake in stating that in one of his cases there was pus, mucus and shreds of mucous membrane. Either he is mistaken or I have been making a great many mistakes in the past. Whenever a case of cystitis is so far advanced that the disease extends beyond the upper layer of the mucous membrane and there is sloughing and shreds of true mucous membrane are thrown off, then I do not believe anything will cure them short of cystostomy and drainage. I believe those shreds the doctor saw were simply shreds of thick tenacious mucus impregnated with urine salts so they really look like shreds of mucous membrane, but investigation, at least in my experience, shows them to be not organized but simply shreds of mucus that have become consolidated and saturated with deposits of urine salts. I hope that that was what the doctor found. If he had found shreds of true mucous membrane I do not think he would have cured his case so promptly, but I will repeat what I said before, that if the doctor made sure that these were shreds of mucous membrane, then I have made a number of mistakes. If I am right, or even right in my observations, then the doctor mistook mucus for membrane.

Dr. Jewett: I am very glad Mr. President to hear so much stress laid upon sandalwood oil, both in the paper and in the discussion. In ordinary acute or subacute cases and in some chronic cases there is no one drug that has given me more satisfaction than this. I have been in the habit of using the capsule Santal Midy. This I have done on the suggestion of Tyson, who thinks it a purer article of sandalwood oil than we get from most other sources. I have not been in the habit of giving so large doses as the doctor does; my rule has been three capsules daily. Under larger doses the stomach frequently resents the drug. Dr. Skene has alluded to its possible effect on the kidneys and I have had reason to believe that harm may be done in that direction by too liberal doses.

Another important matter mentioned in the discussion by Dr. Dickinson is dilution of the urine, and particularly with alkaline drinks in the early stages of cystitis. The suffering of the patient is immensely relieved by rendering the urine neutral.

Many of the various irrigants are of great value after the acute stage, but as Dr. Skene has intimated, irrigation is often abused. It is not easy to make the injection strictly aseptic, and the operation is far from being so as ordinarily conducted. All else clean it is difficult to cleanse the urethra.

One the most useful irrigants and which has not been mentioned is salicylate of sodium, a drachm to the pint.

With regard to instruments, I have never taken very kindly to the glass catheter. I do not know any great advantage that can be claimed for it. It is smooth, and that is a good point, but the danger of mechanical injury is as great as with the metallic catheter, greater perhaps on account of the danger of breakage. It certainly is no more easily cleansed than the rubber catheter. It is not the visible dirt that we are afraid of, it is what we cannot see, and glass, though looking cleaner may be unclean in the microscopic sense. As to the cleanliness of rubber catheters, I have always assumed that they were safe if freed of all organic material at the end of the operation and boiled for five minutes before using.

By way of prophylaxis, if that is in order in this discussion, it has been my habit to avoid, if possible, the use of the catheter after labor. I dislike to use the catheter in the postpartum period for the reason that the parts are in a condition prone to take on inflammatory trouble and of a character difficult to manage. This is reasonable when we remember to what extent the mucous membrane of the lower portion of the bladder is liable to be bruised and even fissured in the passage of the head. The resisting powers of the tissues are diminished and infection may occur more readily than under ordinary conditions. I prefer, as a rule, that the patient should get out of bed to use a commode rather than permit the nurse to pass a catheter.

There is a class of cases, of course, which the doctor did not mean to include among the easily curable ones, old chronic cases with thickened bladder walls and ulceration. These are cases which I have never seen cured.

With regard to drainage, Dr. Skene condemns draining by an over-stretched urethra, but he sometimes does cystotomy. Dilatation of the urethra seems to me in occasional cases a justifi-

able substitute for cystotomy. It is less uncomfortable and distressing to the patient and may sometimes accomplish in part at least what drainage by incision is expected to do. Of course the dilatation must be repeated as often as the urethral walls recover their tone, and a catheter left in.

In the course of this discussion I have been reminded of a case which I saw recently. A maiden woman troubled for many years with cystitis claimed that she had passed fecal matter per urethra. The bladder was of very small capacity with ulcerated thickened walls, but I could find no perforation with the Kelly speculum. Subsequently the attending physician was presented with a specimen of urine containing fecal matter. The interesting point in the case was the origin of the fecal fistula which opened into the bladder. So far as the history shows there was no perivesical trouble antedating the cystitis, yet the primary lesion may have been in the peritoneum.

In another case now under observation, very troublesome vesical irritability, and which has for several years been treated by different physicians as a cystitis, appears to be wholly explained as a reflex from diseased patches in the rectum. The cystoscope reveals no lesion of the bladder mucous membrane.

Dr. W. B. Chase: Mr. President, I have been greatly interested in this paper, and not the least on account of the conservative position taken by the writer as to the efficacy of medication in many cases of cystitis in women. That medication itself is not always sufficient we all very well know, but to assume that in a given case because there is inflammation of the bladder the first move should be to resort to surgical measures, I think is a theory which has prevailed altogether too much.

The question of course as regards cystitis is a very important one, and, as I presume, it is the practice of the gentlemen present, while we cannot in a given case treat the cystitis on chemical principles, yet the reaction of the urine and its chemical constituents must be the basis on which we formulate certain lines of medical treatment. Most often in cases of acute cystitis we will find the urine acid or hyper-acid, but there are cases of cystitis which are more chronic in character, which are often attended with the very reverse condition, that of an alkaline condition of the urine, and the rational treatment medically considered that is proper for one is not proper for the other.

My experience with the Santal Midy has not been so satisfactory when pushed so far.

Regarding the question of irrigation, where the case does not yield to rational medical treatment its value is, certainly, if properly used, very great: but to my mind a good deal of care should be used to get the full measure of benefit from this treatment of irrigation. I have used Dr. Skene's, but I am better satisfied with another method, which is this: my solution varies according to the condition of the case. It never should be strong in character, but always mild and soothing. I place it at the proper temperature in a fountain syringe, and the height at which the bag is suspended above the patient depends somewhat on the condition and sensitiveness of the patient, whether using a funnel like that described by the writer of the paper, or a fountain syringe. The question of the velocity of the stream affects the patient very much. One patient will tolerate a stream of a certain size and velocity without suffering, and in another if the momentum of the flow is at all rapid it induces severe pain. Now I think great care should be exercised in irrigating the bladder that no air should enter the bladder, and if an instrument like this is used or a funnel is used, whatever the tip may be, whether a soft rubber catheter or a glass catheter, the tube should be allowed to fill itself and then pressure made just above the point where the tip is attached, if glass, or if rubber near its terminus, so as to make sure it is filled with fluid; otherwise air will enter the bladder and it will increase the tendency toward decomposition. I have been accustomed to use the soft catheter, but what I am so well pleased with, and I cannot conceive of anything better adapted to the purpose, is the double stopcock. I presume you are all familiar with it. When the attachments are made, it is my custom to introduce the soft catheter into the bladder and before the bladder has entirely emptied itself to turn the stopcock and allow some of the douche to enter the bladder. When the cock is turned one way it runs into the bladder and the other way it runs out. You can gauge the amount and the rapidity with the utmost nicety. One bladder will bear a drachm, and another several ounces; the quantity administered depends upon the patient. If only a small quantity is tolerated, then begin again and go a little further. With an apparatus of that kind you can empty the bladder a dozen or twenty times at one sitting; you can irrigate the bladder over and over again, using half an ounce or two, or three ounces, until the walls are thoroughly cleansed, and not as with funnel arrangement wash the bladder over and over again with the same fluid.

I think it is desirable if you use a soft catheter that it should be introduced only far enough to deliver the stream, and with these precautions I have seen exceedingly satisfactory results not only in the female but the male. I have seen cases of retention from an enlarged prostate in the male after irrigation recover with remarkable rapidity, whereas, otherwise they would be some weeks in recovering if they got well at all. I think it is very needful in these cases that the reaction of the urine be watched every day because if you have an acid secretion of the urine it is exceedingly irritating, and the very moment you use alkali enough to bring about a state of neutrality you have enough, and by using test paper you know where you stand.

Dr. A. Ross Matheson : I have been very much interested in the paper and also the discussion. The gentlemen in the rear of the room have told us about all that is known of cystitis.

For a number of years I have been prescribing the sandalwood oil in the form of the Midy and also in emulsion ; recently I have used Parke, Davis's capsules and I have obtained fully as good results as with the Santal Midy or with any other form. I have used doses fully as large as Dr. Baldwin's and I have had better results than with smaller doses, seldom having complaints of pains in the back. I have always combined alkalies in my treatment, the acetate and citrate of potash largely, diluted with the free use of Vichy and lithia waters. The eucalyptus I have used also. Some of the preparations have not been satisfactory in my hands. I have obtained the best results from Merck's. The salicylate of soda I have sometimes used with very good results.

In regard to the irrigation of the bladder, I have not found the objections stated by Dr. Chase in using Dr. Skene's apparatus. You can easily regulate the pressure, and as to the admission of air, simply watch the funnel and keep it filled with fluid.

Dr. J. L. Kortright : As regards the size of the catheter. Most of my cases of cystitis have been very tender on pressure along the urethra and around the neck of the bladder, and I, in my innocence, supposed that with all cystitis there was more or less urethritis and inflammation of the neck of the bladder, and along the line of Dr. Baldwin's therapeutic measure of dilatation I have been in the habit of using the largest sized catheter possible with better results than with smaller ones where I have washed the bladder.

I can add a few drugs to those mentioned ; in acute cases in my own practice the urine is made alkaline with citrate of potash

and I also give belladonna. In chronic cases I have used quite extensively the old-fashioned flaxseed tea. I have used also copaiba. I am a little surprised to hear of such extensive use of Santal Midy. I believe first of all we should consider the welfare of our patients. I think we should also have some regard for the ethics of the profession, and I am free to say I do not use Santal Midy. I do not like way they advertise it. You find it on almost every elevated railroad station, and unless the other preparations of sandalwood oil give out I should prefer to use some other preparation.

Dr. Geo. McNaughton : In Dr. Baldwin's paper he stated he used benzoic acid and continued the use of it until the urine became acid. Dr. Skene and Dr. Matheson used remedies calculated to make the urine alkaline. I suppose that the difference in treatment is due to the indications.

As Dr. Kortright says, I think we should be careful in prescribing certain preparations, and I think we should be careful in prescribing sandalwood oil. I have had the unpleasant experience of a lady going into a drug store with a prescription for that drug, and the druggist at once jumped to the conclusion that she was suffering from gonorrhoea and made that statement : since that time I have kept a stock of it on hand. I use Parke, Davis's and give about forty drops in capsules and it is a splendid preparation, and it occurs to me that it would be much better to dispense that drug. I do not believe in dispensing any kind of drug if you can help it, but it is very proper to dispense this remedy from your office and save the patient the possibility of being suspected of having something she has not got, there are druggists mean and ignorant enough to make use of such evidence.

Dr. R. L. Dickinson : There is an objection that seems to me valid in regard to the glass catheter. In going over the frozen sections, which I have gathered together, it is a fact that a large number of the bladders when empty are of the Y shape. A few of the bladders when empty are of the contracted balloon shape, but altogether the larger number, though it may be due to *post-mortem* relaxation, as claimed by some, are of the Y shape.

Now in using a catheter of the ordinary variety in a bladder of that shape, the length of the urethra is necessarily an unknown quantity. Therefore, although we may gauge the urethra as of the average length, we absolutely do not know whether our catheter is stopping short of the bladder or whether it is pouching

the upper bladder wall. We know how excessively sensitive the bladder is to a very moderate amount of irritation, particularly in cases of cystitis, and anything that is at all likely to produce that result should be avoided. I know that in the old form of catheter, of which this is an enlarged section (indicating), with the sharp edged silver eye, the membrane was very likely to pouch into the eye in that way (indicating), as the collapsed bladder was thrown into folds, and we had repeatedly to throw in small quantities of fluid again to remove that fold from the eye. Now the same must hold good to a certain limited extent with the catheter built with the eye at the end—the glass catheter—because the fluid runs through into the eye of the catheter, which is a little long for the urethra, and will suck in a fold of the mucous membrane, the latter being relaxed at that point. So I take it there is a slight danger of doing damage that does not exist with a soft, velvet-eyed catheter, which can easily find its entrance either one way or another into the Y shaped or relaxed bladder.

Dr. Chase: Dr. Dickinson has covered the point more fully to which I alluded. Now if you use this stopcock to which I refer, after you have introduced it and withdrawn it you can tell just the point, because by withdrawing it half an inch the stream stops, and by pushing it back again the stream flows. The advantage of the soft catheter is then that you can gauge the length of the catheter which should be in the bladder and gently hold it there and know what you are doing all the way through.

Dr. Jewett: In reference to the point made by the chair; the object I suppose in using alkalies or acids according to the character of the case, is to render the urine neutral.

I would like to have heard from the writer of the paper his experience, if any, with some of the new remedies—saw palmetto, pichi, thuja, occidentalis, and others.

Dr. L. Grant Baldwin: Mr. President, in the first place, Dr. Dickinson's remark as to what kind of sandalwood oil to use, has been answered pretty well. I use the Santal Midy, as from no other preparation can I get results equally good.

As regards the propriety of using or not using such a remedy, you might make the same objections to many things. Certainly if such a remedy will do better for a patient than any other, I do not think that we should hesitate to use it.

I should like to have the same satisfaction from other preparations of the drug. Parke, Davis' preparation has never given me the same satisfaction. I remember a puerperal case where

the catheter had gotten up a most virulent cystitis. It was just at the time when some of my friends were talking over this matter with me, and I tried Parke, Davis' capsules, the same dose, with almost no amelioration of the symptoms. After having stopped them for twenty-four hours to allow the condition to become as nearly as possible what it was at the beginning, I gave the Santal Midy, and in twelve hours the patient was absolutely comfortable.

As to the question of alkalies and acids. The question is just here: acid urine may cause cystitis or the symptoms of cystitis, but I doubt if in a condition of inflammation of the bladder the urine remains acid for very long; certainly, if there is very much cystitis the mucus, etc., that is produced very soon decomposes and the urine becomes alkaline, so that as a general proposition, in cystitis alkalies are contraindicated, but rather benzoic acid or other remedies to make the urine acid are to be used. Neutral urine is not natural. The urine is naturally acid and non-irritating.

With reference to the glass catheter I have never found the objections spoken of, as to the catching of the mucous membrane in the eye of the catheter, I can not see how that can happen in a properly made instrument. In introducing the catheter, whether you know the length of the urethra or not, you stop as soon as the urine flows, and that is all there is of it. If it goes against the opposite wall of the bladder you cannot help it—you have got to evacuate the bladder. I do not believe the pressure of a small glass catheter is appreciably different from the pressure of the ordinary hard end of the so-called soft catheter; it may be soft to the fingers but I do not believe it is any softer to the urethral mucous membrane, because pressure one way or another is very little; the main thing is to have it absolutely smooth. I would like to ask Dr. Dickinson why the bladder in his illustration is located so high above the pubes, so far away from it. My experience shows it, and I believe anatomically it is, directly under it and back of it.

As to irrigation—I would never use it in acute cases. As regards the means of dilating the urethra, I did not say I preferred Kelly's dilator, I simply said that might be used. Personally, I prefer a dilator after Wylie's pattern, which dilates a trifle more at the end than otherwise.

As to the shreds of mucous membrane, I may be mistaken as to their existence, but I think not. They were of sufficient form to float out in water and be of considerable width. In this par-

ticular case it was not unusual to get shreds the size of a nickel or a silver ten cent piece.

I have never made any investigations as to the decrease in the amount of urea under the administration of sandalwood oil, but I have had no unpleasant effects except the belching of the gas from the stomach, which is unpleasant, but never to any extent interfered with nutrition.

Dr. Jewett asks about some of the new remedies. The only one he speaks of that I have tried is the picric, which gave no results in my hands.

As to the cases of thickened bladder walls, I do include those in the cases being rather easily cured by this means. Some two years ago I reported to this Society a case of stone in the bladder, who, according to the history, had had it for twenty years, but there was some doubt about the exact length of time. In that case the bladder wall was the thickest I ever saw, and she was in a most deplorable state. Under the administration of sandalwood oil and washing out the bladder, in ten days' time after the removal of the stone, she was able to go four hours without passing her water, and be perfectly comfortable.

As to Dr. Chase's remarks on the fountain syringe, I must say I cannot agree with him. I believe that with the fountain syringe is not the best but the worst way of washing the bladder. I believe you can less easily control the stream and the force used with that than with any other. On the other hand, with this apparatus of Dr. Skene's, you can see just how much water you are using. He says it is important not to use too much. I am at a loss to know how he can tell how much he does use, through the fountain syringe. With this extremely simple apparatus there is absolutely no danger of injecting air, if it is used with care. You can let the water run so slowly that it simply trickles in as it does from the urethra, if it need be, and at the same time tell just how much you are using. Another great advantage is, you can see the results of your washing better than with the fountain syringe. With the fountain syringe you must complicate a very simple operation.

As to the use of salol—that I have never found beneficial.

As to dilatation of the urethra, it seems to me the best way is to dilate it and understand what you are doing at the time, rather than simply take it as a matter of fact that a large catheter will do good.

I have answered to the best of my ability all the questions, and I am very much obliged to the gentlemen for their discussion.

PROGRESS IN MEDICINE.

SURGERY.

BY GEORGE R. FOWLER, M.D.,

ASSISTED BY DR. RUSSELL S. FOWLER, M.D.

URETAL IMPLANTATION.

The subject of uretal implantation forms a very interesting topic, especially the implantation of the ureter into the rectum. There has been much controversy on this subject; many surgeons, notably Gluck, Zeller, Bardenheuer, Tuffice, and Smith, doubtless because of unfavorable clinical and experimental results, regarding skeptically the value of this operative procedure. Lately, however, better results have been obtained by several surgeons; Novaro, Reed, Thompson, Chaput, and Maydl having demonstrated the success of the operation under more improved technique.

The principal objection against the implantation of the ureters into the rectal wall is, of course, the danger of infection being carried to the kidney from the contents of the rectum. It is true that the danger is very great and in order to guard against it the surgeon must imitate, as much as possible, the manner in which the ureters normally are placed with relation to the bladder-wall. If a normal bladder be examined it will be seen that the course of the ureters in the bladder-wall is an oblique one, so that when the bladder is distended with urine the vesical opening of the ureters is compressed, and consequently much narrowed.

In accordance with the above, Leon Krynski, assistant in the surgical clinic in Cracow, suggests (*Centrablatt für Chirurgie*, 1896, No. iv., pp. 73-75) that that part of the vesical wall immediately adjacent to the uretal orifices be transplanted with the ureters to the rectal wall, just as Maydl does in cases of ectopia vesicæ. Krynski used this method successfully in case of a patient, a man twenty-three years of age, suffering from ectopia of the bladder. Eight months have passed since the operation; the patient is in good health, and there has not been a single symptom of renal disease.

In those more difficult cases, in which the ureters must be

implanted without any bladder-wall, simple suturing is dangerous for two excellent reasons : first, the intestinal contents can easily enter the gaping lumen of the ureter, and second, the orifice of the implanted ureter often stenoses and we consequently get a condition of hydronephrosis. For these reasons the author sought to imitate the conditions present in the normal relations of the ureters to the bladder-wall. He now uses the following procedure :

An angular incision is made through the serous and muscular coat of the rectum on its anterior and internal aspect just below the sigmoid flexure. The longer leg of this angle measures $2\frac{1}{2}$ -3 cm. and is parallel with the axis of the gut; the shorter leg measures 1 cm. and is transverse to the axis of the gut. The serous and muscular coats included between the legs of this are now carefully reflected, revealing to view the mucous membrane of the gut forming the floor of a shallow triangle, two sides of which are formed by our incision and the base by the reflected serous and muscular coats. A small transverse incision is made through the mucous membrane near the lowermost angle of the triangle. After trimming the end of the ureter obliquely so that its orifice presents an oval outline ; its orifice is approximated to the above small transverse incision in the mucous membrane of the bowel and there held in position by means of four button sutures, including the mucous membrane of both ureter and bowel. The triangle flap of serous and muscular tissue is then replaced over the ureter and sutured, the long leg by means of a continuous suture, the short one with a few button sutures, some of which are made to include the ureteral wall. For additional security a few button sutures, including the serous and muscular wall of both ureter and rectum, are placed along the course of the ureter as it lies against the anterior surface of the upper part of the rectum. Care must be taken not to secure the triangular flap too tightly lest constriction of the ureter result.

Krynski's procedure has been thus far restricted to animals. In no case has either suppurative inflammation at the site of the ureteral implantation been observed or any renal disturbance.

SURGICAL CLINIC AT L. I. C. HOSPITAL.

Dr. H. B. Delatour, Surgeon at L. I. C. Hospital, will hold a surgical clinic throughout the summer every Tuesday evening at 9.30 o'clock.

OBSTETRICS.

BY CHARLES JEWETT, M.D., SC.D.

CONDITION OF THE PUBIC JOINT AFTER SYMPHYSEOTOMY.

In a paper recently read before the obstetric section of the New York Academy of Medicine, Dr. E. A. Ayers states that he has collected 110 symphyseotomies done in America. In all the pubic joint was reported to be firmly united after recovery. This does not accord with the writer's observations. In some of the cases presented before the Obstetric Society in New York during the last two or three years, the women had a waddling gait due to imperfect restoration of the symphysis. In my own experience the joint has generally been found firm, but even in cases examined several months after operation a slight degree of mobility has sometimes been detected.

In rare cases the looseness of the joint must be sufficient to permanently affect the gait.

Slight play of the pubic bones on each other, however, does not necessarily entail disability. It is too much to expect that the symphysis shall always become solid after pubic section. This does not invariably occur after delivery by other means. A year or two ago the writer made some observations on the condition of the symphysis after labor. The appended table gives the results of examinations, *post-partum*, of thirteen women at the Long Island College Hospital. The observations were made at periods varying from eleven days to three weeks after labor. The degree of mobility was estimated by requiring the patient to rock the body from side to side, standing first on one foot, then on the other, and also by forcibly flexing and extending one thigh while the other was fixed, the woman lying on the back. The most important factor in the character of the labor affecting the subsequent condition of the symphysis appears to be the relative size of the head and pelvis. Yet in many instances the looseness of the joint after delivery can be ascribed only to excessive relaxation, with which the labor probably had little or nothing to do. It will be noted, however, that in all the

multipara examined, with one exception, there was perceptible motion at the pubic joint.

OBSERVATIONS AT THE LONG ISLAND COLLEGE HOSPITAL ON THE
MOBILITY OF SYMPHYSIS AFTER LABOR.

Patient.	Age.	c. v.	Health.	Length of Labor.	Deliv- ery by	Puerpe- rium.	Weight of Child.	Mobility of Symphysis
4 para.	27	4	Fair.	10 1/2	Nature.	Normal.	5 1/2	0 in.
1 "	27	4	"	10	"	"	6	0 "
1 "	27	4	"	20	"	"	6	0 "
1 "	27	4	Good.	17 1/2	"	"	11 1/2	0 "
1 "	24	4	Excellent.	9 1/2	"	Max. Temp.	7 1/2	1 1/2 "
1 "	22	3 1/2 to 4 in.	Fair.	13 1/2	High for ceps.	Max. Temp.	8	0 "
3 "	26	4	Good.	17 1/2	Manual in- cision of face into the perineum.	"	6 1/2	0 "
1 "	24	4	Good.	14 1/2	Nature.	M. T. 100.7.	6	0 "
1 "	24	4	Albuminuria.	1	Forceps af- ter forceps sen's inci- sions.	M. T. 101.2.	7	0 "
Multipara	24	4	Good.	10	Nature.	Normal.	5	0 "
"	24	4	Fair.	10	"	"	5	0 "
"	30		Eclampsia.	12 1/2	High for ceps.	Aseptic.	4 1/2	0 "
1 "	21	Ample.	Feeble.	40	Forceps af- ter forceps foetus.	M. T. 103.	9	0 "

DYSTOCIA FROM VENTRAL FIXATION OF THE UTERUS—CÆSAREAN SECTION.

Goubaroff (*l'Obstétrique*, January, 1896): The woman was admitted to the hospital after being three days in labor. Four years before an abdominal section had been performed upon her in the same hospital. The uterus, which was retroverted, had been brought up and fixed by the fundus to the abdominal wall. When admitted in labor her uterus was found firmly adherent at its fundus to the entire length of the abdominal cicatrix. The cervix was too high to be reached. On manual exploration under chloroform a constriction of the upper portion of the vagina was discovered, above which the cervix could be felt, undilated. The child presented by the left shoulder. Version was attempted by external manipulation, but failed. The uterus was in a state of spastic rigidity. Delivery was accomplished by Cæsarean section. The utero-parietal adhesions were so solid that they could not be separated with the fingers. The posterior border of the fundus rested against the abdominal wall.

The author thinks that in ventro-fixation the sutures should be placed below the level of insertion of the round ligaments.

RESULTS OF VERSION IN SYMPHYSEOTOMY.

Späth (*Monatschrift f. Geb. und Gyn.*, August, 1895): The author presents in this paper the comparative statistics of forceps and version after symphyseotomy. His study is based on 234 cases recorded since 1887. In 25 the child was delivered by the feet; in 209, by the vertex. Of the 25 women, 2 (8 per cent.) died of puerperal infection. Four of the children were lost, 2 during the birth, 2 by reason of neglected shoulder presentation, a total infantile mortality of 16 per cent. In 4 of these labors the presentation was primarily a breech; these resulted in saving all the mothers and all the children.

In the 209 cases of head-first delivery there were 23 maternal (11 per cent.) and 44 fetal (21 per cent.) deaths.

The results of the author's investigations are tabulated as follows:

HEAD-FIRST DELIVERIES.

Maternal deaths, 11 per cent.

Fetal deaths, 21 per cent.

HEAD-LAST DELIVERIES.

Maternal deaths, 8 per cent.

Fetal deaths, 8 per cent.

VERSION IN GENERAL.

Maternal deaths, 9.5 per cent.

Fetal deaths, 9.5 per cent.

VERSION IN VERTEX PRESENTATION.

Maternal deaths, 13.3 per cent.

Fetal deaths, 13.3 per cent.

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GYNECOLOGY.

BY WALTER B. CHASE, M.D.

DIAGNOSIS AND TREATMENT OF EARLY CANCER AND CYSTS OF THE BREAST.

Dr. Thomas Bryant said he had been induced to write this paper on account of a series of cases of cystic disease of the breast he had met with, most of which had been diagnosed as cancerous. He pointed out that such errors of diagnosis might be diminished by due care and thought. He admitted that typical examples of cancer, as well as of adeno-sarcoma, were usually readily recognizable, and that difficulties of diagnosis and consequent uncertainty of treatment chiefly occurred when any or many deviations from the typical examples presented them-

selves. He divided the cases in which difficulties of diagnosis were liable to occur in three groups, the divisions being based on clinical symptoms alone. Group 1: This group included cases in which, either in a young, middle-aged, or even old married or unmarried woman, there was some enlargement or thickening of a mammary gland without external evidence of anything being wrong, either in the integument covering the affected lobe of the breast, the nipple, or the lymphatic glands. Group 2: This comprised cases in which there was a distinct and very evident lump the size of a hazelnut or walnut, encapsuled or unencapsuled, and inseparable from the breast-gland, with some of the local conditions generally accepted as indicative of a cancerous tumor, such as a flattened or reticulated nipple with or without enlarged lymphatic glands in the axilla. Group 3: In this group fell the cases in which, in the middle-aged woman just past child-bearing, the breast gland was felt to be generally, or in one or more of its lobes, harder than natural, the knots varying in size from small to large peas, and in which there might be at times, with or without the application of pressure upon the gland, some discharge from the nipple of either a clear yellow or blood-stained fluid or some cheesy pultaceous material, associated or not with an enlargement of some lymphatic glands. He remarked, in respect of the first group, that the main question was to decide whether the local lump or induration was an early cancerous tumor or a cyst, or, if in any way connected with lactation, a chronic abscess. If the probabilities pointed to its being cancerous it was, he said, hardly necessary to point out how important it was to have the diagnosis clear and the local tumor removed. Such a measure, when undertaken at the very earliest stage of incipient infiltration, was far more likely to be followed by permanent cure than when performed at a later stage. For this purpose he thought the best course was an early exploratory incision as a preliminary measure to excision of the growth and gland, should the diagnosis of carcinoma be verified. He had followed this practice for many years with the best possible results. In Group 2, in which there was a distinct tumor and the diagnosis lay between a local cancer and a cyst, he urged the desirability of the possibility of its being a cyst being always present in the surgeon's mind. It was, he believed, owing to a neglect of this that so many mistakes of diagnosis were met with. He said he was aware that cysts did sometimes disappear by time and treatment, of which he had met with several exam-

ples ; but he pointed out that such cases were not common, and their occurrence did not justify the practice of allowing the local trouble to continue without treatment. He believed that cases of reputed disappearance of adeno-sarcoma and of cancer were probably instances of mistaken diagnosis, and that they were really cysts. He said he had never known a tumor which was solid disappear without surgical assistance. Instances were numerous in which cysts, said to have disappeared spontaneously, had subsequently reappeared. In some cases the re-enlargement of the cyst might be genuine, while in others the cysts might be of the proliferating kind. In respect to Group 3, the cases falling into this group were too often regarded as cancerous without going carefully into the points which ought to guide them in deciding that question. In conclusion, he stated his belief that in the three groups of cases a place would be found for most, if not all, the doubtful and difficult cases which came before them. He particularly insisted on the fact that if surgeons always took with them to the bedside the thoughts and methods of investigation to which he had called attention, many of the difficulties would be lessened, if not altogether avoided, and a conclusion would be arrived at on which a sound treatment could be based, to the advantage of the patient and to the credit of the surgeon.—*Lancet*.

OPHTHALMOLOGY.

BY JAMES W. INGALLS, M.D.

OBSERVATIONS REGARDING EYE-STRAIN AND ITS RELIEF.

Jackson (*Medical News*, October, 1895) calls attention to the fact that the intensity of the eye-strain is not always directly proportional to the ocular fault that gives rise to it. The former may even seem inversely proportional to the latter. An ocular defect may give rise to imperfect vision or to eye-strain, less generally to both. It is the higher degrees of ametropia that necessarily cause imperfect vision, while the lower, in which imperfect vision can be obviated by increased tension, more commonly cause eye-strain. After middle-life small errors of refraction or imperfections of adjustment cause severe and persistent strain. When the power of accommodation has so diminished that the correction of 1 D. of hypermetropia is quite beyond its range, 0.25 D. of the same error of refraction may

prove a constant provocation to painful effort on the part of the ciliary muscle, or an equal amount of inaccuracy in the adjustment of lenses may be equally injurious. "Finally, as regards relief of eye-strain through the wearing of glasses, let me call attention to the practical importance of the *period of adaptation* to use of glasses. In nearly all works on the subject this period of adaptation is slighted or ignored. It is commonly stated that the wearing by young persons of convex lenses, correcting their total hyperopia, will at first cause blurring of distant vision, and sometimes it is mentioned that strong concave lenses may at first prove unsatisfactory for near work; but no adequate expression is given of the fact that nearly every pair of glasses adjusted, if they be adequate to the needs of the case and of more than trifling strength, will at first cause discomfort and aggravation of some symptoms of eye-strain, or at least markedly less comfort than they will give when the eyes have become accustomed to working through them. It is a matter of the first practical importance that the period should be borne in mind and the patient fully warned of its existence and characteristics."

SALICYLATE OF SODA IN GLAUCOMA.

Sutphen (*Trans. of Am. Oph. Soc.*, 1895, pp. 408-415) speaks very highly of the use of salicylate of soda for the relief of pain in glaucoma. "I have used this remedy with the utmost satisfaction, believing it to be almost a specific for the relief of the severe pain so constant in secondary glaucoma, with or without an apparent rheumatic diathesis, and also in cases where there is more or less supraorbital neuralgia when the condition of the glaucomatous eye does not demand surgical interference." In continuing the article he reports a number of cases where large doses of opium or morphine had been given with little effect, but pain promptly yielded when the salicylate of soda was used. One case, in which an operation had been advised, was of special interest by virtue of the fact that not only was the pain relieved by the use of the salicylate, but also the vision, which had fallen to $\frac{2}{200}$, in the course of about ten weeks, was restored to its normal condition. [In cases of severe pain following extensive injury of the eye, very prompt relief has been afforded by the administration of ten or fifteen grains of the salicylate of soda.—Ed.]

THE USE OF FORMALIN IN OPHTHALMIC PRACTICE.

Burnett (*Ophthalmic Record*, March, 1896, pp. 310-313) speaks highly of the use of formalin. "The ophthalmological world first became aware generally of the value of this quality of formalin through Professor Leber of Heidelberg, at the Ophthalmological Congress in Edinburgh in 1894. The credit of its first use, however, I believe, belongs to Hermann. . . . My special purpose in this short paper is to set forth its therapeutic value in ophthalmic medicine and surgery. A germicide of its great power—first noticed by Loewe in 1888—is an important addition to our list of remedial agents, not only because of its efficiency, but likewise because of certain other advantages which it possesses over any other known antiseptic of equal power. It has little if any toxic properties. Up to this time no case has been reported of any deleterious effect upon its use. It has one other property peculiar to it or certainly not possessed by any other drug to the same degree, and that is the power of rapidly diffusing itself through the tissues. This applies not only to the dead tissues but to the living as well. One great drawback to the efficiency of sublimate, as we know, in addition to its toxic effect, is its power of coagulating the albumin at or near the surface, which not only forms a barrier to its further penetration of the tissues, but even constitutes a good nidus for the development of pathogenic germs. For this reason, therefore, formalin should be more useful than any germicide we have for that class of infections in which the microbes penetrate below the surface and into the substance of the tissues. Most excellent results have been obtained from its use in infecting ulcers of the cornea and purulent conjunctivitis. My own experience with the remedy in both forms of disease has been very encouraging. The corneal ulcer can be touched with a solution of 1-200 or to 500 once every day and for general use as an antiseptic collyrium of 1-1000 or 1-2000. I have a few times cauterized the ulcer with 1-100. One case of serpiginous ulcer I treated with formalin alone, and it turned out more satisfactory than I have ever seen such cases by the old methods. In muco-purulent and purulent conjunctivitis my experience with it has been most satisfactory. I have not relied upon it alone in the severe forms of purulent conjunctivitis, but in the milder forms I have, and have had no reason to regret it. But even in the severe cases I use it as a general antiseptic in addition to the silver nitrate. In acute catarrh of the conjuncti-

val (pink eye) it has acted most promptly when used as a collyrium of the strength of 1-1000 or 1-2000, applied every four hours. . . . For the disinfection of instruments and keeping them aseptic, it has the great advantage of not dulling the edges of the knives. It can also be used for washing out the conjunctiva previous to operations on the eye, though its disadvantage for this purpose is the slight burning sensation it causes sometimes, even in solutions of 1-1000. This, however, is trivial."

HEREDITARY OCULAR SYPHILIS IN THE SECOND GENERATION.

Galezowski (*Revue d'Ophthalmologie*, January, 1896, pp. 1-8) in a paper before the *Société de Syphilographie*, said that he had been impressed for a long time by the peculiar fact that there exist in a certain number of ocular affections, forms of keratitis or especially forms of choroiditis, which closely resemble the affections of acquired syphilis, and yet one would not be able to find any trace of venereal infection or any evidence of a primary lesion. He then cites the histories of four cases in which there was not the slightest trace of acquired syphilis but the parents of the patients had suffered from hereditary syphilis and the grand-parents had been treated by Ricord and others for acquired syphilis.

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PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society Building, 356 Bridge street, Tuesday evening, May 19, 1896, at 8.30 o'clock.

The vice-president, Dr. Jos. H. Hunt in the chair.

There were about 75 members present.

The minutes of the April meeting were read and approved.

REPORT OF COUNCIL.

The council reported favorably on the applications of:

Dr. Charles S. Williamson, Coll. P. & S., 1891,

Dr. Eliz. G. Gilkison, Univ. of Syracuse,

Dr. H. W. Haskell, N. Y. Univ., 1891,

and recommended that they be elected to membership.

PROPOSITIONS FOR MEMBERSHIP.

The secretary presented the following propositions :

Dr. Henry H. Waugh, 38 Schermerhorn street; Med. Depart. Wooster University, Cleveland, 1891; proposed by Nelson L. North, Jr., M.D.; J. H. Droge, M.D.

Dr. Howard J. Wood, 195 Fifty-third street; Albany Med. Coll., 1885; proposed by Dr. A. Ross Matheson; Dr. Geo. McNaughton.

Dr. Cyrus Hamlin, 162 Putnam avenue, L. I. C. H.; proposed by Dr. Charles Jewett; Dr. David Myerle.

Dr. Caroline F. J. Rickard, 570 Bedford avenue; Woman's Med. Coll. Penn.; proposed by Dr. D. Myerle; Dr. Florence Leigh Jones.

Dr. Gustav Liebermann, 200 Rutledge street; Univ. of City of New York; proposed by Committee on Membership.

Dr. William Campbell Weekes, 99 North Portland avenue; N. Y. Univ. Med. Coll., 1892; proposed by Dr. E. C. Kroos; Dr. D. Myerle.

Dr. Charles Schoenijahn, 207 Sixth avenue; P. & S., N. Y., 1894; proposed by Committee on Membership.

Dr. Henry L. Winter, 346 McDonough street; Univ. of City of New York, 1892; proposed by Dr. Wm. C. Schirmer.

ELECTION OF MEMBERS.

The following having been regularly proposed and favorably acted upon by Council, were declared by the president elected to membership :

Dr. John Milton Holt,

Dr. Franklin Bennett,

Dr. Augustus J. Molloy,

Dr. P. Chalmers Jameson,

Dr. Mary DeB. Ingram,

Dr. Jarvis S. Wight, Jr.

SCIENTIFIC BUSINESS.

Dr. Charles N. Cox read a paper entitled, "Some of the Effects of Chronic Nasal Obstruction." Discussed by Drs. E. H. Babcock, H. A. Alderton, John E. Sheppard, E. H. Bartley, L. H. Miller, J. S. Prout, J. M. Van Cott, Jr., and B. M. Briggs.

Dr. H. B. Delatour presented a paper on "Empyema of the Gall-bladder." Discussed by Drs. E. H. Bartley, J. B. Bogart, Deforest, Beardsley, J. M. Van Cott, Jr.

There being no further business, on motion adjourned.

D. MYERLE, M. D., Secretary.

BROOKLYN GYNECOLOGICAL SOCIETY.

Stated Monthly Meeting, March 6, 1896.

The President, Dr. A. Ross Matheson, in the chair.

PRESENTATION OF SPECIMENS.

Dr. W. B. Chase: This is a specimen which I removed to-day from a young married woman, twenty-three years of age, who had had one abortion about two years ago.

It is a case of multiple fibroid of the uterus with cystic degeneration of the right ovary and atrophy of the left, together with a development of a fibroid cyst on the right lateral anterior half of the uterus. The reason for operation was continued poor health with evidence of chronic ovaritis of long standing. From an anatomical standpoint we would suppose from the size and relation of the right ovary that the pain would be on the right side, but, as in a case recently reported here by Dr. L. Grant Baldwin, in which the disease was on the right side, the pain was on the left. The reason for presenting the specimen is more from the fact that the appendix if not in a state of disease—and it had an apparently normal look—contained two or three concretions and it was deemed unwise to allow it to remain. That is the second appendix I have met with in the past few months that contained concretions. The other one was the size of a large lima bean.

This was a complete removal of the uterus and appendages, done by opening the abdomen. It would have been difficult to operate through the vagina which was so small, and on finding that appendix I congratulated myself that was not the method adopted, for in the near future would probably have been necessary some operation on the appendix involving a second section.

Another interesting fact is that Dr. McNaughton, who assisted at the operation, at an examination made before the abdomen was opened, recognized by palpation and definitely located the appendix, which simply demonstrates the aptness and correctness of his diagnosis. It was in close proximity to the right ovary, but not attached to it.

In answer to Dr. Palmer's assertion that he desires to be put on record as stating that he did not believe that any man has the tactile skill to detect an appendix of this size: I think it is rather common in thin patients to be able to distinguish the outline of the vermiform appendix if it is enlarged and diseased by palpa-

tion, through the abdominal wall, and in females by combined manipulation I think it is easier to find it than in males, provided the rectus muscle is not too rigid, and serves as a barrier to easy manipulation ; unless the examination be under an anesthetic. I had a case of mild appendicitis in a girl twelve years old this fall in which there was no rigidity of the recti muscles, and I could study the course of the disease with the utmost ease, and the gradual inflammation, enlargement, and rapid decline which took place in the course of two or three days.

Dr. J. W. Hyde : I think it is very rare that you find an appendix that is hard like this one ; there is a sort of calcareous deposit which might feel like a pencil through a very thin abdominal wall, but as for the average soft appendix being felt through the walls generally, I should think a person must have a remarkably delicate touch to be able to do that.

Dr. Chase : She was a patient of ordinary height and weighed 115 pounds, but the abdominal walls were thin. Dr. McNaughton was quite positive about his opinion, and he was correct. He located it by external manipulation alone at precisely the point at which it was found. I regret Dr. McNaughton is not present to participate in the discussion of this feature of the case.

Dr. L. G. Baldwin : The subject of tubal pregnancy has been pretty well discussed in this Society, and my apology for bringing it up and exhibiting this specimen is that it presents some unusual features.

The woman was a Swede, 28 years of age, married five years ; never been pregnant. Never had any menstrual trouble, in fact has always been perfectly well and so considered herself. She last menstruated in the last week in November and thought she was pregnant after that. On the 22d of January, while at stool, she was taken with symptoms of primary rupture with pain in the left side. The pain was so severe that she fainted in the bathroom and lay there some time before she was found. She was then recovering and was put to bed and a physician sent for. He attended her for a few days and she got better, able to be up. He told her—her statement was—that she had an impending miscarriage and that if she remained quiet in bed she would be able to get over it. That same history continued until the 17th of February, the pain confining her to bed at times with periods of relief, and on the 17th of February she had a worse attack than she had ever had before. I then saw her in consul-

tation on the 24th of February, a month and two days after the first symptoms of rupture. At that time she had a temperature of 102, distended abdomen, and generally in wretched condition. In the meantime she had been treated for various things from acute indigestion to normal pregnancy. The diagnosis of something in the abdomen which ought not to be there was comparatively easy. The mass extended half way to the umbilicus and was hard. The evidence to me was that there had been rupture of the left broad ligament, the mass and the pain being mostly in the left side.

I made a section on the 25th of February and found the abdomen filled with fluid-blood and this fetus well up on the left side half way to the diaphragm; you see by the specimen that it is pretty thoroughly macerated: it was in that condition when I removed it. Much to my surprise I found the rupture in the right broad ligament, which illustrates the point which Dr. Chase brought up about the disease being in one side and the pain in the other. I concluded the first tear was in the broad ligament, and on February 17th there had been a secondary rupture of the broad ligament into the abdomen. The ligament ruptured in a different way from usual. Instead of a single large hole, it had split like a barrel through all the staves—just shattered completely. I cleaned it out the best I could and drained: pulse was 170, and she was in pretty wretched condition simply from loss of blood. Under the free use of a solution of salines by the bowel and a little stimulant the pulse gradually came down and the patient made a perfect recovery, the drainage canal now being nearly healed. This was another case of rupture and tubal pregnancy without the classical symptoms of shock.

Dr. W. B. Chase presented the paper of the evening, entitled:
SARCOMA OF UTERUS AND OVARIES IN THE YOUNG, WITH REPORT OF
A CASE OF MIXED TOXINE TREATMENT.

Sarcoma of the reproductive organs in young women is of infrequent occurrence, and its symptoms, during the early stage, are not easy of differentiation. This rule of infrequency applies at this age as well, to all malignant diseases of the uterus and appendages. Skene refers to age as the principal predisposing cause, and states that is rare before thirty and after sixty. Certain diagnosis, Boldt says, can only be made by the microscope, but in some cases great certainty can be predicted from the physical symptoms and rational signs, notwithstanding the fact that the usual array of symptoms which go to make the history of ordi-

nary malignancy in the earlier stages of development are wanting.

Sarcoma of the ovary usually affects both ovaries and is very rare. Primary sarcoma uteri usually occurs both clinically and anatomically in two forms, sarcoma or fibro-sarcoma of the parenchyma and sarcoma of the mucous membrane, also known as sarcoma deciduo-cellulare. When the ovaries and uterine parenchyma are primarily involved no vaginal discharge is present, and unless the history is definitely known both as regards time and development, it is easy to confound it with either circumscribed or diffused fibroma or myoma. When the neoplasm develops in the uterine mucosa the discharge is suggestive, and ability to get a specimen by curettage for histological study simplifies the problem. In these doubtful cases, in which the microscopical findings are not pathognomonic, doubt as to benignancy or malignancy may remain until late in the disease.

Whether in a given case, in a young married woman under thirty, who thinks she may have aborted, and is suffering from repeated attacks of hemorrhage, the development of malignant decidua or the hypertrophied papillæ of placental or degenerative origin, there may remain perplexing doubt.

The pain attending the ulcerative stage of ordinary malignant disease may be entirely wanting in sarcoma. In fact, the pain of sarcoma is due principally to pressure. Rapidity of growth of solid uterine or ovarian neoplasms is always suggestive of this form of malignancy.

Why early and correct diagnosis is so desirable arises from the fact that successful treatment by extirpation must be early, before contiguous structures are involved. The period of conservative hysterectomy has passed when the broad ligaments are involved.

The case which I now report confirms the difficulty of early diagnosis of diffused sarcoma, and the failure of the remedies employed to combat the disease.

Miss —, aged twenty-four years, a teacher by profession, returned from her summer vacation in September last, after a sojourn at Bar Harbor, without any apparent benefit from her summer outing, at which time she came under my observation. She complained of no pain, but said she felt weak, and stated that for some months past the menstrual flow had been excessive, though regular in appearance. She was somewhat anæmic, but not cachectic, lacking appetite and muscular strength. An exam-

ination revealed an ordinarily anteфлекed uterus of normal depth, with slight symmetrical thickening of the anterior portion of the corpus, which bled slightly after using the sound, with some enlargement of right ovary, and absence of tenderness of either organ. The only item of interest which a careful scrutiny of her previous history elicited was that, some five years ago, after dancing, she suffered severe pelvic pain accompanied by collapse, which was succeeded by five months of poor health, after which she had resumed and regularly followed her avocation.

Presumably this attack and illness was due to some form of pelvic hemorrhage. In the development of sarcoma in other organs, traumatism sometimes bears an important causative relation. Whether this may have been a factor in the development of her fatal illness is, while largely conjectural, not improbable. She entered St. John's Hospital on October 7th, and I curetted her the following day. The amount of debris removed was small and insufficient for purposes of satisfactory diagnosis. Everything went smoothly for two weeks, when menstruation commenced, attended with moderate fever and slow emaciation. Her appetite was poor and her nutrition impaired. Restoratives and tonics were administered with unsatisfactory results. A trial of proto-nuclein was made with apparently good results. Twice it was withdrawn and twice restored. After each discontinuance of it she was not so well, and when used again she was better. Whether this was a coincidence I am unable to say, but this improvement was in her general condition and not local. The origin of the fever was up to this period a matter of doubt. Associated with it was a slow but progressive thickening of the broad ligaments, not extensive, but painful, simulating pelvic peritonitis, with hardness of the peritoneal vault. The fever abated, but was never absent for more than a day or two, when at the end of seven weeks she returned to her home, rather comfortable, but not as well, as when she entered the hospital.

During the latter part of November there was marked increase in the infiltration of both broad ligaments. At times she was easy; again the paroxysms of pain interfered with sleep and were controlled by codeia. During the first half of December the growth was more rapid, predominating in great enlargement of the uterus and left ovary. The probability of malignancy was apparent and the diagnosis of sarcoma made and confirmed by an eminent gynecologist. The history of the case from this

time to the period of her death, January 12, 1896,* was that of rapid growth of the uterine body and the left ovary, in which the right ovary participated, but to a much less degree,—the uterus reaching above the umbilicus, and the left ovary standing out of iliac fossa the size of a goose egg. It was not until late in the history of the case that she became cachectic. During the period of this rapid enlargement of the neoplasm in the last month of her life, employment was made of the hypodermic use of the mixed toxines of erysipelaus and prodigiosus, secured from the Loomis Laboratory under the direction of Dr. Coley, and used in progressive doses of from four to fifteen minims. Locally it was irritant and painful, followed by slight tumefaction. There was no evidence of constitutional effect following its use. The looked-for rise of temperature never occurred.

The report of this case, *per se*, as related to serum therapy, is of little or no value, only as it may be a unit in statistical comparison of the success or failure of this form of treatment. Reflection upon the history of the case enforces the belief in impossibility of early diagnosis, upon which rational surgical methods of procedure could be formulated. Unfortunately, it was impossible to absolutely verify the diagnosis for want of autopsy, but the history and symptoms left little or no doubt as to the nature of the disease.

DISCUSSION.

Dr. J. W. Hyde: I do not know, Mr. President, that I can add much to the discussion of this subject. While it is interesting, simply for statistical purposes, to note cases in which toxines have been employed, still I believe that the general consensus of professional opinion is that comparatively little value attaches to their use. My own opinion is certainly in this direction, based upon three or four cases which were for some time patients under my care, and afterward patients in a hospital where they were subjected to the toxine treatment.

Metastasis in sarcoma occurs through the blood channels, and in carcinoma through the lymph channels; this reason, I suppose, has demonstrated the greater value of toxines in sarcoma than in carcinoma. This, at least, seems to be the opinion of recent pathological writers on this subject. We also know that in carcinoma the lymphatic glands—axillary, inguinal, and others—act as outposts; whenever a malignant cell is transmitted through the lymphatic channels, it is seized by these outposts or glands, and there held until it has caused the break-

ing down of that particular gland, or it jumps to fresh glands : thus toxins would hardly be carried with much benefit in cases of carcinoma.

Dr. Coley cites twenty-five cases of sarcoma treated in the New York Cancer Hospital, of which, I believe, he claims that in six of these cases some very material progress, if not absolute cure, was effected. If it is possible that six out of twenty-five of such cases can be even benefited by toxins, it is certainly valuable information to know. I am not able to fortify this with statements from any other operators in this special line of work. It is possible that some of those present may know of some statistics equally satisfactory with those of Dr. Coley's, but I am led in what I have said, to express doubt as to the curative effect of the toxins, because in most cases misfortune has overtaken the patients.

Dr. Wm. Maddren : I would like to ask Dr. Chase a question in regard to the injection of the toxins. Was it into the uterus or into the tissue that was involved in the malignant disease ?

Dr. Chase : The injections were made chiefly in the buttock, from four to fifteen minims each.

I wish we could say that the cure of malignant disease, or even any form of sarcoma, by the injection of the toxins of erysipelas and prodigiosus was an established fact. I believe there is enough evidence in their favor to encourage us to persevere in their use, looking to the future to supply some modification or elaboration that will make them generally efficient. I have used these toxins, supplied by Dr. Coley, in some six cases, and while I cannot report a cure, I have seen marked and prolonged improvement in several cases while under treatment by this remedy.

Of evidence of cure by others, recently I had the pleasure of reading a letter addressed to Dr. Coley by two professional gentlemen, that is of special interest to us. A report of a case of uterine sarcoma, beyond hope by operative procedure. These doctors, after injecting the toxins a number of times into different parts of the patient's body without satisfactory result, injected a full dose (15 minims or more) directly into the sarcomatous tissue of the uterus, producing an alarming effect, very high temperature, etc., but the result was a complete disappearance of the sarcoma.

NARRATION OF CASES.

Dr. J. L. Kortright : So few cases of symphyseotomy have

been reported to this society that I present the following case :

Mrs. J., primipara, Ireland, thirty years, 4 ft. 10 in. (1.47 meters) in height. Waters broke November 19th in the evening. Pains began November 21st at 11 P.M. She was first seen 15 hours later when pains expulsive in character were occurring every five minutes. Head had not engaged : the os was dilatable, the cervix long. The head was presenting in the transverse diameter, occiput to the left, fetal heart 170 beats heard at umbilicus. A midwife was in charge. Patient was living in the rear apartment of the top floor of a dirty tenement.

Operation at 5.30 P.M., pubes shaved; long incision, technique of Morisani, *i.e.*, portion of the attachments of the recti were cut. Great difficulty in introducing finger between symphysis and impacted head. Urethra held to left, symphysis cut from above downward and from behind forward. Subpubic ligament ruptured. Traction with 40 minutes delivered male child alive. Biparietal diameter, $3\frac{3}{4}$ in., or $9\frac{1}{2}$ cm. after molding. No lacerations of maternal parts. Following delivery there was very free venous hemorrhage from wound, so that it was thought wise to pack it and leave it open. Symphysis separated 3 in., or 7 cm. During convalescence there was great pain in both trochanters. There was no temperature till 17th day, when the womb became infected. Urine was passed spontaneously on the fifth day. Patient left the bed after four weeks. A canvas belt 6 in. wide, laced in front, was used to maintain apposition. At present there is no motion at the symphysis. There is still a small fistula leading down behind the symphysis. The patient is able to care for her child and to perform her household duties. She still walks with a slight limp and complains of pain at left sacro-iliac joint. The following are her measurements :

Interspinous, 8 in. or 20 cm.; intercostal, 10 in. or $25\frac{1}{2}$ cm.; conjugate estimated 3 in. or $7\frac{1}{2}$ cm. Pelvis is justo-minor in type.

FRANK BALDWIN, Secretary.

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INEBRIATES' HOME.

Drs. Fowler, Mason, and Raymond, who were named as incorporators of the Home in the bill passed by the Legislature of 1896 to reorganize that institution, have not qualified as such; neither has Mr. Alfred T. White, who was also named in the bill.

BROOKLYN SURGICAL SOCIETY.

March 5, 1896.

Presentation of specimens,

THREE CASES OF NEPHRECTOMY.

Dr. Pilcher presented three kidneys, each of which illustrated interesting conditions.

CASE I. *Pyonephrosis and Nephrolithiasis.* — The first of the three was a kidney enlarged by chronic interstitial inflammation, with suppurative foci and with multiple calculi formed within it. It occurred in a woman some forty-five years of age. For two years or more she had been aware of a tumor in the right half of her abdomen. It was not particularly tender. It presented protuberant nodules and gave all the external gross appearance of a malignant growth of the kidney. The patient was cachectic, passing blood and pus from the bladder, and the presence of degenerative changes, with suppuration in the kidney, were unmistakable. For its removal, a transverse incision inward, reaching from perhaps three inches to the outside of the umbilicus upon the affected side outward, nearly to the vertebral spines. The peritoneal cavity and the perinephritic space posteriorly to the peritoneum were both opened freely. A hard, nodular mass which was thus exposed was readily enucleated upon its outer and anterior aspects. As its inner relations were reached, however, its adhesions to the structures upon the middle and posterior portion of the abdominal cavity were dense and hard. Running along its inner border and embraced by a portion of the growth ran the vena cava ascendens. An effort to enucleate it was made: as the surgeon advanced there were large branches which went directly from the substance of the growth into the vena cava, and as they were cut the result was simply a lateral wound in the vena cava. Several such wounds were secured by clamps. Although in the course of the division of these vessels a very considerable amount of hemorrhage was unavoidably sustained, the growth was finally entirely enucleated and removed. Up to this time the doctor still believed that he was dealing with a malignant growth. There were large glands visible in the immediate vicinity, some of which were removed. The wound was dressed, clamps being left upon the wounds in the vena cava, it being impossible to ligate them. A tampon was placed from the depth of the wound, reaching out through the

outer angle of the parietal wound. The external wound, aside from this, was closed, the rent in the peritoneum being closed by sutures separately. For the purpose of compensating for the very great loss of blood, a generous infusion of saline solution was used, and the patient was gotten to the bed, still in a precarious condition. The rally from the intravenous saline infusion was but temporary, and in a few hours the patient died, as the result, primarily, of loss of blood sustained during the operation. Upon opening the growth after its removal from the body, it was found that the growth was not malignant, but was inflammatory in character; a chronic inflammatory hyperplasia of the cortex, with multiple greatly distended pus cavities, containing enormous calculi, constituted its mass. Had the kidney been opened first, before attempting its removal, and the pus that was in it evacuated, the operative course would have been materially modified.

In the first place, the kidney would have been much diminished in size, and in the second place, instead of striving to take as much tissue as possible, the surgeon would have been justified in leaving as much as he could and thus would have been able to avoid the very close approach to the vena cava, which it was necessary to make on the supposition that it was a malignant growth.

CASE II.—*Hydronephrosis, Pyonephrosis*.—In presenting the second specimen, Dr. Pilcher stated that some two months ago a woman, about thirty-six years of age, had presented herself to him with a large tumor in the right side of the abdomen. This tumor formed a swelling which reached over the middle line of the abdomen as far as the umbilicus and filled the whole right side of the abdominal cavity from the basin of the iliac wings below to the liver above. It was tender, fluctuant upon pressure and she was having the usual septic phenomena of suppuration. The doctor supposed that he had to do with a case of pyonephrosis. The patient entered the hospital at once and upon the succeeding day Dr. Pilcher proceeded to operate upon her in the same manner as he had operated upon the patient last described. Upon the exposure of the tumor, which quite evidently contained fluid, it was punctured and evacuated of its contents, which, instead of being pus, proved to be a limpid fluid; perhaps two quarts of this fluid were thus evacuated from this sac. Aside from this limpid fluid, which very much resembled that which is ordinarily seen in cases of hydrocele, a little brownish in color, there was nothing in the sac excepting a small amount of fibrin-

ous material such as is often seen in cases of adhesive peritonitis. Having emptied this sac, the doctor provided for its drainage and desisted from further operation at that time. It drained freely: there was no unpleasant reaction after the operation, and for some two or three weeks the gradual contraction of the cavity was evident. At the end of this time the cavity had contracted down to a comparatively narrow but long sinus, but as it had contracted there now became evident, lying below it and extending downward to the brim of the pelvis, a mass which had the feeling of an enlarged kidney. At the same time the woman was passing pus from the bladder and presented all the usual symptoms of pyonephrosis. It was evident that the great tumor, which had at first overshadowed everything, had been a hydronephrosic sac which had been shut off from the general cavity of the kidney in some way, while the greater mass of the kidney, in a condition of suppurative inflammation, was still present and dislocated below its usual position. He accordingly subjected the woman to a second operation, making an incision from above, downward from the middle of the incision that had been made in the first operation, to the crest of the ilium, and forward to a point half-way between the spine of the ilium and the spine of the pubes. He exposed the mass and was able to enucleate it without opening the peritoneal cavity. In the course of the enucleation multiple abscesses were opened into, the walls of which broke down in the manipulation. It proved to be the kidney, the seat of multiple abscesses. In the course of the enucleation the dissection opened into the track that remained of the previous operation, so that the continuity of the diseased processes was well demonstrated.

The patient made an ideal recovery from both first and second operations.

CASE III.—*Sarcoma of Kidney*.—Dr. Pilcher further presented an enormous sarcomatous kidney, stating that some four weeks before there had been brought to the Methodist Hospital by Drs. Barnhart and Langstaff a man, some fifty years of age, who for four years had been the subject of intermittent attacks of bleeding from the bladder, passing at times large quantities of blood. More recently there had developed considerable tenderness in the left lumbar region and upon examination a distinct tumor in the region of the left kidney was evident. Shortly before the patient was admitted to the hospital an unusually large hemorrhage had been experienced by him, and he was greatly prostrated from the loss of blood. Aside from the tumor and the loss of blood, all

the symptoms which he presented were negative. The left kidney was exposed by a transverse incision extending forward from the outer edge of the erector spinae posteriorly some six inches. Later on this incision was still further prolonged until it reached within a short distance of the umbilicus. In the earlier part of the enucleation of the mass, which presented itself, the peritoneum was not opened, but for the later necessarily freer access to the pedicle of the growth it was necessary to open the peritoneal cavity, and this was done freely by an incision which opened it for several inches of its course. The tumor was not adherent ; it was readily enucleated and felt soft and fluctuant. The doctor having in mind his experience in the cases previously presented and not willing to miss the possible advantage which might come from evacuating any fluid that was within the mass, plunged his finger through its cortex, but found no pus ; it was evident that he had to do with a sarcoma of the kidney. The mass was finally detached and enucleated as far as the pedicle containing the vessels which ran to it. This was finally embraced by a curved long-handled clamp forceps, the mass was cut away and the operation brought to a happy conclusion. Naturally, the operation being prolonged, the man, being in a state of great prostration to begin with, felt the shock of the operation, and an intravenous infusion was administered for his relief, some thirty-six ounces of the saline solution being thrown into the vein. The vast cavity was filled with a gauze tampon, the wound in the peritoneum was sewn up carefully and the external wound partially closed. The man rallied well from the operation, surprisingly well, considering what he had undergone. Upon the fifth day the tampons and the clamp were all removed without any hemorrhage. From that time for three weeks the patient continued to do well, took food and was in good spirits, having no disturbance to cause any anxiety. Three weeks after the operation, however, attention was called to the patient during the night, and the nurse, upon approaching his bed, found he was lying in a pool of blood. The hemorrhage had spontaneously stopped, but nevertheless so much blood had been lost that he failed to rally and died within a short time. The *post-mortem* showed the renal artery firmly closed by an organized thrombus, but an accessory trunk had remained patent and its end had become opened in the separation of a superficial slough in the wound cavity, and from this source the fatal bleeding had occurred.

HISTORICAL DEPARTMENT.

THE JENNER CENTENNIAL.

On the evening of May 14th the medical profession of Brooklyn honored themselves in celebrating the great victory over disease, which was achieved by the humble country doctor amid the vales of Gloucester, in England, a hundred years ago.

They were assembled in response to the following circular, which had been sent to them a few weeks previous :

BROOKLYN, April 20, 1896.

DEAR DOCTOR : At a meeting of the Medical Society of the County of Kings, held in January of this year, Dr. Jos. H. Hunt made the following statement :

"The fourteenth of May of this year will be an era in the history of medicine—a great centennial era. One hundred years ago, the fourteenth of this coming May, Edward Jenner made the first vaccination on the boy James Phipps. I would like to make a motion, if it is in order, that this Society celebrate this centennial, making it an event in the medical annals of Brooklyn, taking the opportunity to show the people of Brooklyn what vaccination has done—the influence that it has had in the profession and to humanity."

In accordance with the suggestion, the entertainment committee has arranged a banquet, to be held on the evening of Thursday, May 14th, at the Pouch Mansion, 345 Clinton avenue, at seven o'clock.

The following distinguished gentlemen will be present and make addresses : The Right Rev. H. C. Potter, D.D., LL.D., Bishop of New York; William Pepper, M.D., LL.D., Provost and Professor of the Theory and Practice of Medicine and Clinical Medicine in the University of Pennsylvania; William Welch, M.D., Professor of Pathology at Johns Hopkins University, Baltimore, Md.; Hon. St. Clair McKelway, Regent of the University of the State of New York.

The tickets for this dinner will be six dollars each, including wine. Gentlemen desiring tickets will fill out enclosed card, sending check, money order, or postal order (do not send money through the mail). As our seating space is limited, an early reply will insure a position; no tickets will be sold after May 11th.

As the expenses of this celebration will not be covered by the sale of tickets, private subscriptions will be appreciated by the committee :

H. A. FAIRBAIRN, M.D.,
C. F. BARBER, M.D.,
GORDON HALL, M.D.,
Entertainment Committee.
J. H. HUNT, M.D.,
ERNEST PALMER, M.D.,
Advisory Committee.

Never before in the history of Brooklyn was there gathered such a large and representative body of those of her sons engaged in preventing disease and preserving life. In the list of those present it will be seen that no locality or society or class was unrepresented. Though the entertainment committee had placed the price of tickets at a figure which seemed at first so large as to be exclusive, they had about two hundred guests at their banquet, which was served in Maresi's best style.

The arrangement of the great ballroom of the Pouch Mansion, with numerous round tables, each of which seated eight guests, added much to the social enjoyment of the affair. The reception given to the honored guests in the handsome parlors which were richly decorated, gave those who arrived early enough an opportunity to welcome and make the acquaintance of the distinguished gentlemen.

In the reception-room opposite there was exhibited a most interesting collection of Jenner medals ; also medals commemorating other great men or events connected with smallpox or vaccination ; most of which were loaned for the occasion by Dr. H. R. Storer of Newport, R. I., whose collection of medical medals is probably the most valuable private one in existence.

Besides these Dr. J. H. Hunt exhibited his collection of portraits of Jenner, and those who had contributed to the history or literature of the subjects of variola and vaccinia ; as well as books, autograph letters, and manuscripts.

These included more than fifty portraits of Jenner, together with portraits and autographs of John Hunter, the teacher and life-long friend of Jenner ; Herman Boerhaave, who predicted, 150 years before Jenner's time, that an antidote would be found against the smallpox ; Benjamin Waterhouse, the Jenner of America ; John Adams, who presided at the meeting of the American Academy of Science, when Jenner's discovery was first

introduced to an American audience, and who, with his son, John Quincy Adams, signed, as president and secretary, Jenner's certificate of honorary membership of the Academy; and Thomas Jefferson, who introduced vaccination among the American Indians, and many others.

The menu bore on the front a portrait of Jenner, with the dates 1796-1896 on either side. Above the picture was the following apt quotation from the Bible: "And he stood between the dead and the living and the plague was stayed." The next to the last page bore the following stanza from the epitaph on Jenner's tomb:

"Immortal Jenner, whose gigantic mind,
Brought life and health to more than half mankind:
Let rescued infancy his worth proclaim,
And lisp out blessings on his honored name."*

On the back was the official seal of the Medical Society of the County of Kings, under the auspices of which the banquet was held.

Dr. George McNaughton, who has three times been elected president of the Society, officiated as toastmaster. At his right sat Bishop H. C. Potter, of New York, and on his left, William Pepper, Provost and Professor of Theory and Practice of Medicine and Clinical Medicine in the University of Pennsylvania. Others seated at the president's table were William Welch, M.D., Professor of Pathology at Johns Hopkins' University, Baltimore, Md.; Dr. Andrew J. Otterson, who was given a complimentary dinner by the Society, on the fiftieth anniversary of his admission to membership in the Society last year; Dr. A. J. C. Skene, Dr. Joseph Hunt, whose collection of Jenner pictures was exhibited in the reception-room; Dr. J. M. Van Cott, and Dr. Ernest Palmer. Among others present were: Drs. J. T. Duryea, Francis H. Stuart, Alexander Hutchins, H. L. Bartlett, J. S. Prout, J. H. Raymond, C. N. Hoagland, L. D. Pilcher, A. J. Dower, F. A. Jewett, C. N. Cox, A. C. Bunn, the Rev. A. A. Morrison, Drs. John Rankin, J. F. Golding, William Maddren, and his son W. H. Maddren, Drs. A. W. Shepard, J. Harrigan, L. A. McClelland, S. T. King, George E. West, R. M. Wyckoff, D. F. Lucas, L. P. A. Magilligan, W. J. Cruikshank, E. S. Hodgskin, Ralph H. Pomeroy, Herbert F. Williams, A. S. Ambler, L. A. W. Alleman, T. M. Rochester, William Browning, Omar Morgner, C. E. Mi-

* The last two lines of the epitaph omitted here are:

"And radiant beauty drop one grateful tear,
For beauty's truest friend lies buried here."

ner. Mr. Dudley, Drs. Samuel Sherwell, Arthur Mathewson. W. M. Hutchinson, E. B. Dudley, C. F. Barber, H. A. Fairbairn, H. T. Hotchkiss, R. C. F. Combes, A. C. Brush, H. H. Morton, Herman Bender, Col. E. H. Roehr, E. H. Roehr, Jr., Drs. Archibald Murray, H. N. Hoople, Stanly G. Clark, J. Bion Bogart, Arthur H. Bogart, H. De Haven Cameron, Stephen L. Taylor, Charles H. Goodrich, Fred. J. J. Wood, Earl H. Mayne, J. H. Sterling, F. W. Wunderlich, O. J. Wilsey, Amityville, Long Island; E. H. Bartley, H. M. Smith, E. H. Babcock, D. C. Lewis, New York; William Schroeder, A. T. Bristow, James L. Watt, J. M. Winfield, J. D. Sullivan, E. H. Wilson, R. B. F. Randolph, C. G. Purdy, J. W. Hyde, H. B. Delatour, L. W. Pearson, George Little, Nathaniel Matson, George R. Fowler, Russell Fowler, F. P. Miller, C. Jewett, David Myerle, N. T. Beers, Drs. Fred. D. Bailey, J. H. H. Burge, L. L. Nichols, C. Olcott, William Waterworth, William N. Belcher, J. R. Stivers, William H. Steers, Arthur R. Paine, Major Thomas D. Hughes, Drs. John A. Arnold, D. A. Harrison, Z. T. Emery, G. A. Williams, A. W. Catlin, J. P. Warbasse, H. J. Knapp, New York; Rupert S. Royce, E. P. Hickok, T. M. Lloyd, J. M. Raub, James Fleming, C. D. Spence, Drs. S. M. Peacock, L. C. Ager, F. S. Kennedy, R. T. Wheeler, Major Edward S. Fowler, Drs. John O. Polak, P. H. Sturges, Seth D. Boggs, Frank West, Frank Little, H. P. De Forest, J. B. Thomas, C. T. Sauer, H. A. Alderton, James S. King, John A. McCorkle, Burdett O'Connor, H. B. Bayles, Frank Little, C. D. Napier, H. R. Price, John E. Richardson, J. H. Droge, J. C. Kennedy, H. N. Read, J. R. Quinn, H. A. Higley, J. E. West, New Jersey; the Hon. T. L. Woodruff, G. A. Shepard, C. C. Henry, Horace M. Sloat, W. S. Applegate, G. G. Cochran, J. Scott Wood, W. H. Biggam, P. J. Prendergast, John A. Cochran, W. F. Campbell, H. B. Reed, Charles M. Skinner, L. Coffin, W. C. Shermer, W. B. Chase, C. R. Butler, J. W. Van Deusen, A. Ross Matheson, the Rev. R. B. Fairbairn, D.D., LL.D., Drs. G. W. Brush, Joseph W. Malone.

The menu, consisting of eleven courses, was an excellent one and was admirably served. The tables were beautifully decorated, and with choice music by the "Hungarian Band," the scene was picturesque and animated in the extreme.

As the hour of ten drew near, President McNaughton rapped for order and addressed the assembly partly as follows:

"We cannot consider the accomplished work of any man without giving considerable attention to the man himself. The

great benefits to humanity which were accomplished by the discovery of vaccination are admitted by all who have taken the trouble to give the matter any attention. I shall satisfy myself by giving a brief sketch of the genius who gave to man the greatest life-saving device that the world has ever seen, not only a life-saving, but, I might add, a beauty-preserving measure, for the ravages of variola are seen less and less every year, and it is safe to predict that, were compulsory vaccination insisted upon, pockmarked faces would disappear.

“Edward Jenner was born in Gloucestershire May 17, 1749. He commenced preparation for a medical career in his thirteenth year. He remained six years with Dr. Ludlow at Sudbury and afterward became a pupil of the celebrated anatomist and surgeon, John Hunter, with whom he remained on terms of intimacy until the death of Dr. Hunter.

“In 1792 he became M.D. of St. Andrew's. Vaccination was made known to the world in 1798, when Jenner was forty-nine years of age, but he had studied the subject in his early professional life.

“On this day one hundred years ago, he secured virus from the hand of a dairymaid, Sarah Nelmes, and inserted it by two superficial incisions into the arm of James Phipps, a healthy boy of eight years, who was afterward inoculated with smallpox without any effect. For two years Jenner was unable to pursue his investigations, for the cowpox disappeared from the dairies. The results of his work were published in 1798. Previous to this he had spent two months in London, where no one could be found who was willing to be inoculated with cowpox. The first successful vaccination in London was performed by Henry Cline. This patient was subsequently inoculated with smallpox and found to be immune.

“Vaccination was brought into disrepute by many who did not understand and would not learn its proper application. For instance, a Dr. Woodville was in the habit of inoculating with cowpox; then he would insert smallpox virus after three or four days. This system of practice brought vaccination into disfavor, as might naturally be expected.

“News of the important discovery soon spread to other countries. It was introduced into America by Professor Waterhouse, of Cambridge, Mass., in the year 1800. Vaccination was not for one country, or for people of one color, but for the whole world, and the people accepted it, with here and there an exception. At

this time, smallpox was epidemic in India and Ceylon. Dr. Jenner proposed to the Secretary of State that a number of soldiers who had never had smallpox or been vaccinated embark in a large vessel and be inoculated with cowpox in succession, thereby preserving the virus. The government did not regard this with favor, and Jenner endeavored to raise money by private subscription for the purpose of relief in those countries.

"The practice of vaccination was condemned and ridiculed. Some who had been vaccinated were said to cough like a cow, while others bellowed like bulls; some regarded it as unnatural and irreligious. These antagonisms gradually became less and less, and at the same time Dr. Jenner became more prominent in the scientific world. Honors were showered upon him, medals were struck, certificates and letters came from important societies and individuals.

"Jenner never claimed that vaccination would always absolutely protect from smallpox, but that failure would be a rare exception. He regarded variola and vaccinia radically and essentially the same. In 1813 the degree of M.D. was voted to Jenner by the University of Oxford. Dr. Jenner died of apoplexy on the 26th day of January, 1823.

"'Jenner's nature,' says his biographer, 'was mild, unostentatious, unambitious. The singleness of his heart and his genuine modesty graced and adorned his splendid reputation. He made no answer to aspersions. There was a total absence of all ostentation or display, so much so that in the ordinary intercourse of society he appeared as a person who had no claims to notice. He had a working head, never being idle, and accumulated a great store of original observations. These treasures were imparted most generously. Such was the man to whom the world was indebted for vaccination—no court or metropolitan physician, no university student, but a country doctor—a man of science and of benevolence, whose name is undying.'"

The president then said: "It is my pleasure and honor to introduce the Right Rev. Bishop Potter of New York, not simply identified with church work, but a man whose services are called in requisition to arbitrate matters among the common people, showing that he is not only dear to us as a minister of God, but that he exercises a paternal influence in civil matters, without regard to faith or dogma."

Bishop Potter in rising to speak received an ovation. He declared himself deeply touched at his reception. "Sometimes,"

he said, "there have been strained relations between your honorable profession and mine, but such a thing cannot be and should not on such an occasion as this. It is my great delight to remember that Jenner was the son of a clergyman, and that his brother also was a man of the cloth. The clergy have not been always the friends of science, but this is not the case in the matter of vaccination. The congress of Geneva officially promulgated the theory of vaccination and gave churchly assent to its practice. Only one thing alloys my satisfaction here. Why is this celebration held in Brooklyn while there is none in New York? You will point to that, I suppose, as only one more additional evidence that Brooklyn, though to be absorbed by her rapacious neighbor, still lives and intends to remain among the living. No fact in your history is more to your credit than this, that you have remembered this centennial and have kept it. Certainly nothing in the history of medicine is more worthy of honor than Jenner's great discovery and whatever honors belong to medicine none can surpass that due to the great vaccinator. The common indebtedness of all mankind belongs to him. He turned the ray of a new hope upon a timorous and disheartened world."

In introducing Dr. Pepper next, Dr. McNaughton said :

"Philadelphia has always been prominent as an American medical center and it still preserves its position. One of the most famed of all her scholarly representatives honors us to-night. The name of Pepper is a medical household word, and it will be our pleasure to listen to him on the subject of 'Preventive Medicine.' I introduce Professor William Pepper."

Dr. Pepper was enthusiastically received by his associates when he arose to speak. He said in part :

"Too much cannot be said by us of Jenner. I thank Dr. McNaughton for his comprehensive, clear cut survey of the simple facts of Jenner's life as a man and an original investigator and his immortal discovery. To him is due that extreme and rare credit of having devised the incalculably valuable scheme of close and patient observation, without which, great discoveries in the value of science are hopeless dreams. Jenner's discovery has removed a scourge from the face of the earth. But think how many others still await solution at our hands! Their solution depends upon the same methods he put into such successful operation. I have taken the trouble to secure a few statistics of preventive deaths in Philadelphia for the past twenty years. The

result is startling. There were 55,000 deaths in that city alone in that time from tuberculosis, 11,500 from typhoid fever, 8000 from scarlet fever, and 155,000 from various infantile causes, all of which must be included in the list of preventive diseases. If we should personally practice preventive medicine, I am certain our services would be vastly greater to suffering humanity than ever before. It is a higher medicine than that which seeks to quell contagious disease after it has spread over our cities and eaten into the vitals of the people. This is a very serious matter and needs deep thought. We ought to get it planted in our schools and public libraries. Municipal and national preventive medicine is also our great need. How much do municipalities appreciate this? How many laboratories do our cities endow? I tell you, that to-day the medical profession is the only profession which is trying forever to restrict its own field of effort and emolument. Yet, when it tries to secure government or city co-operation it is set upon as if it were trying only to secure personal gain. We should unite in insisting upon the immense importance of these subjects—health, the prevention of disease and epidemic. I am glad Bishop Potter is here to listen to our plea. He is in high places, and I hope he will see the necessity of raising his voice in this magnificent field of human effort, where it has potent influence. Here in this aggregation of population, soon destined to be the second greatest city in the world, is a magnificent opportunity. Let it lead in showing the world its zeal for the succor of humanity. Recognize science's call here.

“Now, one step more. This is a national question. Cities cannot deal largely enough with questions of quarantine, the pollution of the sources of water, the pollution of our coast waters and the poisoning thereby of our sea-food product. Then there are the great domestic food crops and our food animals. I do not want more centralization in Washington, but modern preventive medicine demands national control. We must speak strongly for humanity and demand recognition for these things. Take away one thought more. Remember that our duty is that we force this question into immediate public recognition.”

Dr. Welch, of John Hopkins University, who was next introduced, chose for his subject the scientific bearings of Jenner's discovery and its logical consequences in the development of preventive medicine. He characterized the discoverer of vaccine as a thoroughly trained scientific man. “He knew pathology,” said Dr. Welch, “and knew it well. His investigations were en-

tirely of a scientific character, and no man in medicine has been less selfish in his work. Jenner was the first physician to make a *post-mortem* examination in the case of angina pectoris, and the discovery of its nature was really due to him. His careful investigation convinced him of the accuracy of his opinion that it was merely an ossification of the coronary arteries. That little monograph of Jenner's on vaccination is one of the classics of the language. It takes rank with Harvey's essay on the heart. It illustrates perfectly his far-reaching, painstaking observation and his careful study of every aspect of this subject. Dr. Pasteur, whose great discoveries in our own time have electrified the medical world, gives full credit to Jenner as the source of his inspiration. The theory of preventive medicine is to-day a principle as likely to be as beneficent to humanity as that discovered by Jenner. All of our great discoveries rest on the application of experimental method in medicine. They rest on experimentation on animals; vivisection, *if you like it. But it is a necessity. There has never been a time in which great discoveries in medical science have been possible, except through the agency of experimentation. Your Society has shown an enlightened spirit in recognizing this opportunity to honor the memory of Jenner, and I thank you for the privilege that you have extended to me to participate in doing honor to his memory."

St. Clair McKelway, who was expected to be present, sent a letter of regret to Dr. McNaughton at the last moment. The latter, in referring to Mr. McKelway's absence, took an opportunity to congratulate the *Eagle* upon its accuracy and fairness at all times in the discussion of medical science.

Dr. Joseph H. Hunt spoke of Dr. Jenner as a naturalist and as a man, and entered into a short talk upon the memorials which were shown in the exhibition-room. He gave a brief description of the more interesting medals, prints, and treatises in the collection, quoting at length from some of the latter. He also spoke of Lady Mary Wortley Montagu, the talented wife of the British Ambassador to Turkey, who first introduced modern serumtherapy, as applied to preventive medicine into Europe, by inoculating her own children with smallpox virus and introducing it among her friends.*

He was followed by Dr. Skene, the last speaker of the evening, who took occasion to say a pleasant word about all of his predecessors. "The good die young," said he, "but this does

* A portrait of Lady Montagu will be found in this number of the JOURNAL.

not seem to be the case with the clergy. My friend, Bishop Potter, is an example of this. They live long and it is not altogether through vaccination either. I rejoice that Jenner had the social spirit developed in him, for are we not indebted to that very spirit for bringing Bishop Potter and Dr. Pepper together here this evening? The latter, in the realm of science, has done almost as much as Jenner for humanity. Then also we have been able to listen to Dr. Welch, who, in the prevention of disease, I think ranks even ahead of Jenner."

Dr. Skene, in closing, proposed a toast to Dr. Jenner's memory, which was drunk standing.



THE JENNER MEDAL.

During the evening copies of the ornate bronze medal, represented above, were distributed to the guests present as souvenirs of the occasion.*

Too much cannot be said of the excellent work of the reception committee, and their enthusiastic and intelligent labors which resulted in making the affair the success which it was. He who provides for the recreation and entertainment of tired people, and brings together professional men, away from their daily depressing scenes of pain and distress, is entitled to great credit and heartfelt thanks.

Long live the memory of Edward Jenner, and may Drs. Fairbairn and Barber be long spared to give us continued repetitions of the Otterson and Jenner dinners.

The following letter from Lady Mary Wortley Montagu, to a friend in England, is the first announcement of smallpox inoculation to civilized Europe :

ADRIANOPLE, APRIL 1, O. S. (1717).

Apropos of distempers, I am going to tell you a thing that I am sure will make you wish yourself here. The smallpox, so

* Copies of the medal will be sent to the more prominent numismatic collections of the world.

fatal and so general among us, is here entirely harmless by the invention of ingrafting, which is the term they give it. There is a set of old women who make it their business to perform the operation every autumn, in the month of September, when the great heat is abated. People send to one another to know if any of their family has a mind to have the smallpox : they make parties for this purpose, and when they are met (commonly fifteen or sixteen together), the old woman comes with a nutshell full of the matter of the best sort of smallpox, and asks what veins you please to have opened. She immediately rips open that you offer to her with a large needle (which gives you no more pain than a common scratch), and puts into the vein as much venom as can lie upon the head of her needle, and after binds up the little wound with a hollow bit of shell : and in this manner opens four or five veins. The Grecians have commonly the superstition of opening one in the middle of the forehead, in each arm, and on the breast, to mark the sign of the cross : but this has a very ill effect, all these wounds leaving little scars, and is not done by those that are not superstitious, who choose to have them in the legs, or that part of the arm that is concealed. The children or young patients play together all the rest of the day, and are in perfect health to the eighth. Then the fever begins to seize them, and they keep their beds two days, very seldom three. They have very rarely above twenty or thirty pocks in their faces, which never mark, and in eight days' time they are as well as before their illness. Where they were wounded, there remain running sores during the distemper, which I don't doubt is a great relief to it. Every year thousands undergo this operation, and the French ambassador says pleasantly that they take the smallpox here by way of diversion, as they take the waters in other countries. There is no example of anyone that has died in it, and, you may believe, I am very well satisfied of the safety of the experiment, since I intend to try it on my dear little son.

I am patriot enough to take pains to bring this useful invention into fashion in England, and I should not fail to write to some of our doctors very particularly about it, if I knew any one of them that I thought had virtue enough to destroy such a considerable branch of their revenue for the good of mankind. But that distemper is too beneficial to them not to expose to all their resentment the hardy wight that should undertake to put an end to it. Perhaps, if I live to return, I may, however, have courage

to war with them. Upon this occasion, admire the heroism in the heart of your friend, etc.

To Mrs. S. C. (Miss Sarah Chiswell.)

WALTER A. MORTON, M. D.

July 22d, Dr. Walter A. Morton died at his residence, 395 Gold street.

We take the following sketch of our deceased member from the *Storer Record*, the organ of Storer College, Harper's Ferry, Va., of which institution Dr. Morton was an alumnus.

"Walter Morton was among the first of Storer students to aspire to the higher education. He was scarcely eighteen years of age when he entered Storer College, a self-supporting pupil. After taking a normal course, he went to the Nichols' Latin School in Lewiston, Me.; thence to Bates' College, in the same city."

"Here he received the degree of A.B., and matriculated at the College of Physicians and Surgeons in New York City in 1887, and was afterward a student in Long Island College Hospital, and at Dartmouth, where he received his M.D. in 1890.

"Dr. Morton shortly afterward settled in Brooklyn and became a member of the Medical Society of the County of Kings in 1891; and about the same time married Varina Harris of Columbia, S. C., herself a practitioner of medicine. She is described as 'a lady of rare qualities, both of mind and heart.'

"To those who knew him best, Dr. Morton possessed many of those staying qualities that are the essentials of reliable manhood, as well as many of those ideal ones which we so seldom find. With the integrity of a Puritan and the courage of a martyr, he united the gentleness, the sensibility, the refinement of a nun.

"To his friends the high side of his nature stood revealed and to them he was ever loyal. Very close to Dr. Morton's heart lay the interests of his race. He was an enthusiastic admirer of our great men and felt a personal interest in any and everything that marked a step in advance. Especially dear to his heart were Storer College and the associations of his school-days. One of the unsatisfied longings of his last days was to look once more upon the hills and rivers of old Harper's Ferry.

"Dr. Morton had much to live for—a profession to which he was devoted and in which he was destined to stand high; a wife whose ambitions and aspirations were in perfect harmony with his own; a little son, in whose future the hopes of both parents

centered; and an ever-widening circle of friends.—All held him to earth. It is no wonder then that he contested every inch of ground with the fell destroyer and all that science and strength of will could do to put off the fatal day was done. But when no more could be done our friend and brother met death with the same undaunted courage with which he had taken up life, and with perfect faith and resignation entered the Great Beyond.

"In our poor human judgment it all seems wrong. We feel he could ill be spared, and yet we bow in humble submission to the decrees of a Providence 'too wise to err, too good to be unkind.'"



NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.

THE TONIC AMBLYOPIAS: THEIR SYMPTOMS, PATHOLOGY, AND TREATMENT.

By George E. de Schweinitz, M.D., Clinical Professor of Ophthalmology, Jefferson Medical College of Philadelphia. Octavo, 24 pages, 41 engravings, and 9 full-page colored plates. Limited edition. De luxe binding, \$4.00, *net*. Lea Brothers & Co., Publishers, Philadelphia and New York. 1896.

"Toxic Amblyopias" was an essay which was awarded the Alvarenga prize of the College of Physicians of Philadelphia, 1894. As the title indicates, it treats of those forms of dimness or obscurity of vision due to the poisonous actions of certain drugs and chemical substances. The classification adopted is based on prominent physiological and toxic actions; while this is perhaps not thoroughly scientific, it is nevertheless the most practical one, and the only one of any value, in view of the insufficiency of pathological data.

Among the many drugs and chemical substances discussed are alcohol, tobacco, iodoform, chloroform, ether, caffeine, thein, acetanilid, quinin, aconite, atropin, cocain, eserin, filix mas, santonin, menthol, podophyllin, and ptomaines, nearly a hundred in all.

The volume is a most valuable contribution to medical literature, and will doubtless be regarded as an authority for a long time to come.

It is, perhaps, no exaggeration to say that the manner in which the publishers have issued the book is beyond criticism. The binding is exceedingly attractive, while, what is far more important, the type and the paper are simply perfect. We search in vain in the table of contents among the agents which cause Amblyopia for "poor type" and "shiny paper"; the omission is doubtless due to the fact that these are not "toxic," but that they are efficient causes, who can doubt? The publishers of Dr. de Schweinitz's monograph can never have laid to their door the charge of being contributory to the increase of this form of Amblyopia. We would commend the volume to such other publishers as are guilty of ruining our eyesight while endeavoring to improve our minds.



LADY MARY WORTLEY MONTAGU.



JOHN BARREA ZABRISKIE.

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

CLINICAL OBSERVATIONS ON SUPPURATION IN THE NECK.

BY WALTER C. WOOD, M.D.,

Surgeon to St. Mary's Hospital.

Read before the Brooklyn Surgical Society.

The suppurative processes in the neck present many interesting features. Although the intensity of the infection may vary from the chronic to the peracute gangrenous type, the location at the outset is well determined by anatomical considerations. The deep cervical fascia, arising from the spines of the vertebrae, extends around the neck, and by its various subdivisions and prolongations forms, more or less, complete investments for the various muscles, glands, major vessels, and canals. These compartments, so well seen on cross-section of the neck, are regarded as determining the course of suppuration. While this view is doubtless correct as regards well-advanced conditions, it is also true that there are but very few of these compartments in which

these deep phlegmonous conditions originate. Excluding the cases of traumatic infection, I think it can be established that the only compartments in which the so-called idiopathic abscesses develop, are those in which we find lymphatic glands. If we thus determine the centers of infection, we can plan incisions to drain those centers and reach a small collection of pus lying obscured by the large mass of surrounding inflammatory exudate. The diagnosis of these deep phlegmons is often obscure at the period when active treatment should be instituted. There is, of course, no fluctuation. There is at first no superficial redness or edema. Tenderness is often very slight. Many of the cases, perhaps a majority, follow the asthenic type, having a slight rise of temperature or a subnormal condition. Yet we have a profound septic state developing, that at times clouds the mental faculties, so that it is impossible to obtain a reliable history, and so benumbs the senses that even present subjective symptoms are obscured.

Several varieties of suppuration in the neck have recently been under my care; and to certain of these types, acute and chronic, I will ask your attention:

1st. *Abscess of the Parotid*.—Acute parotiditis occasionally occurs as a secondary lesion in a variety of diseases, as in typhoid, scarlet fever, pneumonia, pyemia, etc., but an apparently primary abscess of the parotid is not of frequent occurrence. The superficial layer of the deep cervical fascia, after dividing to enclose the sterno-mastoid muscle, unites at its anterior border and passes in a strong layer over the parotid gland to the zygoma and angle of the jaw. From the deep layer of the cervical fascia behind the sterno-mastoid, "a prolongation of extreme density is found passing behind and to the inner side of the parotid gland." (Gray). Thus, in addition to its own capsule, there is a firm layer of deep fascia forming a complete investment of the gland. Superficial to the gland and within its substance are constantly found several lymphatic glands. Quain says that three or four small lymphatic glands lie beneath the deep parotid fascia and a larger one is constant just in front of the tragus. In the two cases that have recently come under my observation, I have been unable to trace the portal of infection. One was a medical student who had been devoting himself most assiduously to dissecting. At the eighth day, when I first saw him, he had all the constitutional signs of sepsis. His high fever and rapid pulse were accompanied by great prostration, profuse sweating, intense

local pain, with inability to open the jaw. Yet the skin over the parotid region was scarcely red, and there was no fluctuation.

A minute incision had been made in front of the external meatus, but no pus obtained. More radical measures had been dreaded for fear of section of the facial nerve. Under anesthesia, I made an incision two inches in length over the sterno-mastoid muscle, parallel to the muscle, and just behind its anterior border. Although this was some distance from the prominence of the swelling, by means of an artery forceps it was easy to reach, by a safe and generous opening, the collection of pus. The wound healed in three weeks without a salivary fistula. It is possible that the infection came from the dissecting-room through an acute pustule.

The second case followed the asthenic type so completely that it was treated for many days by constitutional measures alone. The patient was a stout, thick-set man of fifty years, and the local swelling, of which he did not complain, although recognized, was not especially prominent, and therefore not considered to be the cause of his lethargic condition. When I first saw him, the skin over the parotid was becoming blue, and the neck, as far down as the clavicle, occupied by a hard induration. He was so nearly moribund that anesthesia was unnecessary. Free incisions liberated the deep pus and sloughing fascia. He recovered after nearly four months of constant hospital care.

Of retropharyngeal abscesses I have recognized three varieties: 1st. The so-called idiopathic type of infancy. 2d. Those secondary to a cervical osteitis. 3d. One case complicating tubercular adenitis of the lymphatic glands along the carotid. Behind the mucous membrane of the posterior wall of the pharynx lie these structures in the following layers: The fibrous aponeurosis, the constrictor muscles, the loose areolar tissue containing the retropharyngeal lymphatic glands, the prevertebral fascia (continuous with the deep layer of the cervical fascia forming the back of the sheath of the carotid), the prevertebral group of muscles, four on either side, and the periosteum of the cervical vertebræ.

The acute type, usually seen in infancy, develops in the lymphatic glands lying in the loose areolar tissue. These glands are part of the deep cervical chain and communicate with the lymphatics of the face, nose, and pharynx. As an abscess here lies in front of the prevertebral fascia, it usually points toward the mouth rather than laterally. Thus acute symptoms usually appear before an external swelling is prominent. In two or more

days, dysphagia, then dyspnea and acute septic conditions develop. A peculiar metallic cry will often call attention to the exact diagnosis, which can be readily confirmed by inspection of the fauces. Yet unfortunately these cases die unrecognized, from dyspnea, sepsis, or suffocation from spontaneous evacuation of pus into the air-passages. J. Lewis Smith says that these cases are often recognized only at *post-mortem*. Such cases come under the care of the family physician. They have usually been incised through the pharynx, and will probably continue to be so treated. Theoretically, this is not correct surgical practice, for the drainage cannot be aseptic. Yet for this variety alone, I believe it is a better method than by a lateral incision. As a matter of fact, the child is quickly relieved of dangerous symptoms, and the abscess heals kindly in a few days. These abscesses are not easily reached from the neck, because they do not spread laterally before the vital indications for operation arise. The little patient is not in a condition to stand even a short formal procedure under anesthesia. The danger of flooding the air-passages with pus is avoided by the dependent position. Available statistics show that seven-eighths of all retropharyngeal abscesses are of this variety.

The second variety, those with a cervical osteitis, although rare even in orthopedic clinics, are very important. Whatever may be our opinion concerning the opening of the usual tubercular collection in Pott's disease, in the retropharyngeal abscess of cervical Pott's, an incision is a necessity. As the purulent deposit is in these cases posterior to the prevertebral fascia, the tendency is to a lateral spreading. If an opening into the pharynx occurs, either spontaneously or otherwise, the sinus does not heal in a few days because of the osteitis, and prolonged septic conditions are created. We can affirm without hesitation that these cases should never be treated through the pharynx, but always by a lateral incision. This method, first advocated in 1877 by John Chiene of Edinburgh, yields excellent results. It has been indorsed by Bokai, St. Germain, Willy Meyer, Townsend, and others. The incision can be either posterior or anterior to the sterno-mastoid. The posterior gives the better access to the vertebra for curettings and is the safer course. The Hilton-Rose method of reaching the abscess makes the operation simple, even if the collection does not point laterally. The orthopedic treatment of the primary osteitis must be rigorously enforced.

The third variety is illustrated by the following case: J. M.,

sixteen years. female, tubercular glands on the right side of neck of one year's duration. On left side, a few glands and a tubercular abscess, size of an orange, in the superior carotid triangle. But the immediate cause of the girl's seeking surgical relief was difficulty in breathing, due to a prominence in the posterior wall of pharynx. She took the anesthetic badly. On opening the abscess, a communication with the retropharyngeal space was evident. This was enlarged, giving free drainage. I removed the cervical glands on the other side at the same sitting, which wound healed per primam. The left side drained for six weeks. The thickening of the posterior pharyngeal wall was evident for several months, but eventually became nearly normal. She has remained well for two years

Under the name of Ludwig's angina is described another septic condition: Submaxillary cellulitis, diffuse cellulitis of the neck, sublingual cynanche, deep cervical phlegmon, are other and better names. A cursory perusal of the literature would lead one to think that different diseases have been indiscriminately described under one title. But from personal observation I am convinced that it is different stages of the same affection that give the varying clinical pictures.

The natural course of the disease seems to be about as follows: It is usually found in a patient beyond middle life and always, I believe, in one whose general condition is depressed. According to Furneaux Jordan, it most frequently occurs in those addicted to excessive drinking. A previous alcoholic history has existed in the cases that I have seen with but two exceptions. One of these patients was depressed by severe and repeated personal grief. The other was a young butcher of thirty years. Jones, in the *Lancet* of 1891, reporting a single case, comments on the fact that the patient was a butcher and suggests that his trade was the source of infection. Usually the cause is not apparent. In a few instances decayed teeth have been removed by the surgeon during the early stages, but without effect on the inflammation. I believe their presence to be a mere coincidence and not in any way related to the etiology of the subsequent cellulitis. For the inflammatory phenomena in the floor of the mouth were observed in the later period of all carefully reported cases as well as in all those which I have seen and never at the commencement.

The septic process first develops in the region of the submaxillary gland, and probably in one of the lymphatic glands

beneath the submaxillary fascia. The patient will indicate the exact spot of tenderness. At first it is a trivial matter. There is a little pain, no temperature or sepsis, and a slight difficulty in opening the jaw. That is all. If the infection is not very virulent, it is several days before urgent symptoms develop. These slower cases gradually increase in the area involved. A brawny hardness develops that does not pit on pressure and is not especially tender or red. There is a slight rise of temperature with an increased difficulty in opening the mouth. At this time there may be a soft edema of the face, due, I think, to interference with the facial vein. During this stage the infection is limited to the compartment of the submaxillary fascia. I have known a patient to remain three weeks in this condition. If, however, the more acute type of infection is present, the initial period is of but a few days' duration. When once the barrier of the fascia is past, the clinical picture changes. The brawny hardness becomes a dark purple and increases rapidly in area, the mouth cannot be opened or it may be forced open by the thickening in the floor, and the tongue protrudes. Swallowing in either case is almost impossible, breathing becomes difficult, the pulse is rapid, and the temperature is high or subnormal. The patient may now die of sepsis or edema of the glottis. If life continues, the superficial fascia becomes the seat of an acute cellulitis, and the circumference of the neck increases enormously, as both sides become involved from ear to clavicle. I have seen a subcutaneous emphysema from the gases of decomposition. A superficial incision at this stage releases a large amount of ichorous fluid. A reported autopsy gives the measure of this fluid as nearly a quart. A majority of the cases reported in English journals have proved fatal. Parker styles it "a dangerous and most frequently a fatal disease." Death has usually been due to sepsis, with more or less dyspnea. Some rapid cases have apparently died from dyspnea as the chief cause. A few cases from secondary hemorrhage with sloughing. Autopsy has shown a diffuse infiltration of the deep cellular tissue, with a serous, foul-smelling fluid and sloughs. Pus is found in the submaxillary region, and in one reported case it had reached the posterior mediastinum. However, certain apparently desperate cases recover under proper care.

The treatment advised by all writers that I have seen is as follows: Nothing radical is to be done until the case is well developed, as early incisions do not liberate pus and do but little

good. Ice, lotions, etc., are to be used in the hope of a success, which is considered to be improbable. Then, later, a free incision in the middle line from chin to sternum through the deep fascia, is advised by Baker, in the St. Bartholomew Hospital reports for 1890, by Jones in the *Lancet* of 1891, and others. Superficial lateral incisions have been added by other reporters. Parker, in his classical essay on the subject, published in the *Lancet* in 1879, recommends free deep incisions through the most indurated area. "The incision to do good must go through the whole thickness of the induration, and where can we do this with safety except in the middle line" writes Baker, in the reports above mentioned. Anesthesia is considered necessary, although universally acknowledged to be especially dangerous. MacKelean, in the *Canadian Practitioner* of 1892, reports a fatal case during chloroform. A case died on the table at the very commencement of ether narcosis when I was house-surgeon at Bellevue Hospital. All these cases do badly with ether, and chloroform I hesitate to give in the presence of profound sepsis.

From an experience with several of these cases, when an interne in Bellevue, I became convinced that the infectious process starts in the submaxillary compartment, and that a small amount of pus can be obtained from that region at a much earlier period than the general appearance of the case would indicate. Since that time I have operated at the earliest possible opportunity in several cases in the following manner. I have always found a little pus and the patient has improved from that moment. Notwithstanding a somewhat extensive induration, if a small incision is so placed that the cause of the induration can be drained, it will subside. With cocaine for the skin, an incision about $1\frac{1}{2}$ inches long is made parallel to the anterior border of the sterno-mastoid, beginning about midway between the muscle and the angle of the jaw. This is made only through the platysma and fascia. Then a sharp-nosed artery clamp is pushed carefully toward the middle of the submaxillary gland. A dram of pus, more or less, will be obtained. A drainage-tube, inserted with care to the bottom, and left for several days, will be ample for the slight discharge. This small vent is a success, because it is in the right place and at a time when the infection is centered in a limited area. The incision in the skin is painless, the introduction of the clamp causes some pain, but believing that a general anesthetic is especially undesirable, I have never regretted its omission.

With the report of an unusual case of alveolar abscess, I will close. Although the usual abscess arising from dental caries is on the outside of the jaw, the same process may occur on the inside of both upper and lower jaws. In the following case, the collection of pus was between the mylohyoid muscle and the mucous membrane of the floor of the mouth: Miss K., twenty-three of age, had her last molar tooth removed for caries in August. During the four succeeding weeks she suffered from pain in the jaw. Swallowing became more difficult day by day. The tongue seemed to grow thicker and to fill the whole of the mouth. Breathing was difficult, especially at night. On examination, the tongue was found very thickly coated and the breath foul. The back of the tongue was elevated nearly to the palate. The tonsil was pushed back. A fluctuating swelling was seen extending from the inner surface of the jaw toward the middle line beneath the tongue. A tender external spot near the angle of the jaw was present. An incision, parallel to the jaw and midway between the bone and the side of the tongue, easily liberated the pocket of pus. A gauze drain was inserted for a day, and with the aid of a mouth-wash she recovered in a week. If the abscess had been in its usual location it would have been readily recognized by her physician whom she had consulted.

♦♦♦—

A MODIFIED OTIS URETHROTOME.

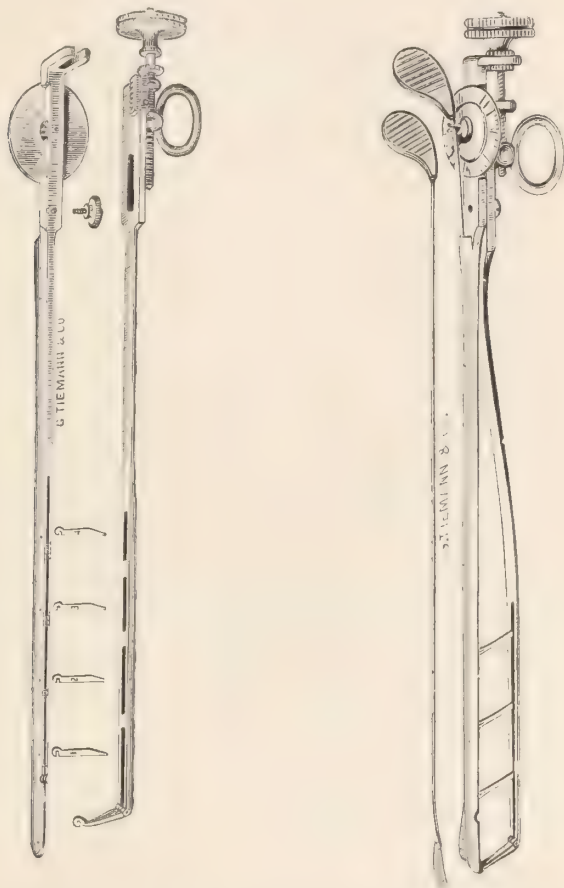
BY JAMES M. WINFIELD, M.D.,

Brooklyn, N. Y.

Anyone who has ever used the dilating urethrotome of Otis has doubtlessly been impressed with the extreme difficulty in properly cleaning and making the instrument aseptic, it being so constructed that there is no way to take it apart, consequently its many corners, cracks and depressions serve as suitable receptacles for the lodgment of dust, rust, and germs.

Having experienced these difficulties many times, I consulted with Dr. Pfarre, of the firm of Messrs. Geo. Tiemann & Co. The result of that conference was the instrument I now show you, which closely resembles the well-known urethrotome, consisting of a handle, on which there is a dial, and a shaft composed of two blades, held together by a screw. One of the blades (the anterior) is grooved for the reception of the knife. The shaft-

blades are separated equally along their length by a screw attachment in the handle. Near the distal end there are four bars, which hold the shaft-blades firmly apart in dilatation. This is briefly the Otis urethrotome.



The modifications are: (1) The screw holding the two blades of the shaft together is a movable thumbscrew; (2) the parallel brace-bars, instead of being permanently fixed, as in the Otis, have one end finished in a hook, which grasps a pin in the anterior shaft-blade. The other end of the bar is somewhat pointed, which works in a slot in the posterior blade of the shaft. The distal end of the shaft is finished as the old one (Otis), except the hook idea is carried out here the same as in the bars.

To take the instrument apart, you remove the thumbscrew and lift the posterior shaft-blade, and unhook the end. The small

parallel bars will be seen resting in their sockets in the anterior shaft-blade. These are unhooked and removed, and now the whole apparatus is ready for cleaning. There is no difficulty in readjusting, for each part is numbered.

It will be seen that there is no change made in the general construction of the instrument, except that the new one can be taken apart and cleaned, which alone should make it worthy of your attention.

DISCUSSION.

The President: This is evidently an improvement on the old instrument, and I am sure Dr. Winfield would be glad to answer any questions if the mechanism is not understood, or if there is any discussion, we would be glad to listen to it.

Dr. H. B. Delatour: I am sure all who have used the old Otis instrument will be glad to welcome this improvement, for certainly nothing in the way of a single instrument has given us more worry and anxiety as regards cleanliness than the old Otis urethrotome. It has been almost impossible to clean the slot which carries the knife, and also, and more particularly, the little grooves behind where the parallel bars fit. In this instrument, we not only can get at those grooves with perfect facility, but it seems to me it would be a very easy matter to pass a strip of gauze through the other blade and clean that slot where the knife passes as well; and it certainly is a matter for congratulation that we have an improvement which gives us such an excellent aseptic instrument, with really no modification in the instrument itself as regards its mechanism.

Dr. Winfield: I forgot to add that the groove that the cutting-blade fits in is pervious, and can be cleaned with a strip of gauze, as Dr. Delatour remarks.



SURGICAL CLINIC AT L. I. C. HOSPITAL.

Dr. H. B. Delatour, Surgeon at L. I. C. Hospital, will hold a surgical clinic throughout the summer every Tuesday morning at 10 o'clock.

The operations performed by him at recent clinics were for nævus of cheek, by electrolysis; inguinal hernia, radical cure; varicose veins; tubercular glands of neck; lipoma of shoulder, excision; prepatellar bursitis, excision; painful cicatrix, epilepsy, excision; tubercular adenitis, cervical, removed; necrosis of tibia, and sarcoma of lower jaw.

MENTAL INFLUENCE IN PATHOLOGICAL CONDITIONS.

BY ARTHUR CONKLIN BRUSH, M.D.,

Assistant Neurologist to the Kings County and Brooklyn Eye and Ear Hospitals; Neurologist to the Brooklyn Central Dispensary.

Read before the Kings County Medical Society, February 18, 1896.

The belief in the power of certain agencies to produce or remove disease by occult means is as old as mankind, for we find it in all races, ages, and stages of civilization. Originally, disease, like all other natural phenomena in which the relation between cause and effect was not very apparent, was attributed to the direct influence of the gods, and to be removed by prayers, charms, and incantations.

In more advanced states of civilization, we find this belief modified by the introduction of the priest, astrologer, witch, sorcerer, and magician, who claimed to control in a measure the actions of the gods.

In Europe, it was again modified by the introduction of Christianity, and we find it manifested by the belief in the healing power of saints, shrines, relics, demons, spells, witches, and the like.

At the present day it exists in the East under its ancient form, but modified in certain parts by the doctrines of Mahomet.

Among the barbaric races and among the lower orders of the civilized ones, it shows itself by their firm belief in the healing powers of charms, incantations, relics, shrine-healers of various kinds, witches, clairvoyants, astrologers, and the like.

Among the educated classes, it is not infrequently found, but in more highly differentiated forms, and existing especially among those whose judgment is defective and are now known as degenerates.

These constitute the mass of believers in cures by prayer, shrines, relics, healers of various kinds, Braidism, mesmerism, animal magnetism, clairvoyance, Christian science, and homeopathy.

The fact that such beliefs have existed throughout the history of our race certainly demands an investigation as to the amount of fundamental truth which lies behind it, for there is a soul of

truth in all things evil. "More especially may we assume in the case of beliefs that have long existed and are widely diffused; and most of all so in the case of beliefs that are perennial and nearly or quite universal. For a belief which gains extensive reception, without critical examination, is thereby proven to have a general congruity with the various other beliefs of those who receive it; and so far as these various beliefs are based upon personal observation and judgment, they give an indirect warrant to one with whom they harmonize." (Spencer.) Now, as the same results are claimed for a large number of causes all acting in an occult way, and as science cannot accept as causes things whose mode of action cannot be explained, we must look for one whose method can be explained and which we can accept as a true cause. We find such an explanation in the relationship of the mind to the body. The mind is the product of the activity of the cerebral cortex. Its centers receive and retain the impressions which are conveyed to them from the various parts of the body, and the centers which receive the different impressions produced by an object become by association organized into groups, known as memory centers. Certain centers possess the power of controlling the action of others, and it is this power which enables us to select the concepts which we wish to use, and regulates the action of the entire nervous mechanism.

This inhibitory power enables us to divide the central nervous system into three levels, the first, or psychic, consisting of the volitional centers in the frontal lobes, and the whole inter- and intracortical mechanism; the second, or cerebral, of the cortical nuclei and the pyramidal systems, and the third, or spinal, of the nuclei at the base or in the cord and their nerves.—Flechsig.

Marked irritation of one of the lower centers, however, may be able to overcome this inhibitory power, and allows the center to discharge, which, in the cortex, shows itself by concepts forcing themselves upon attention and disturbances in the organs governed by the centers of the lowest level.

If the irritation be more marked, the excitement spreads to neighboring centers, and we have the violent disordered action, which forms an emotion, during which all coördinate power is weakened or lost.

The organs which are under the control of the central nervous system are represented in it by two centers, one in the cerebral level, the other in the spinal.

The functions of the higher center are to receive stimuli from

the lower, to stimulate the latter to discharge in response to volition, and at other times to inhibit such discharges. Our knowledge of these cortical centers is as yet incomplete. Their study being rendered difficult by the compensatory functions of the centers in the two halves of the brain and by the fact that different portions of the impressions produced by objects on some organs, such as the eye, are represented in different parts of the cortex. The known centers are those of the special senses, voluntary motion, equilibrium, memory of language, and some special centers, such as the red nucleus. Besides the known centers, it is certain that some other organs are thus represented. It is a question whether the abdominal and thoracic viscera have nuclei in the central nervous system or not. Maudsley, Marselli, and Regis believe that they do, and that they enter into the formation of the mind; but the impressions which they produce, being habitual, are unheeded until disturbed by some derangement of the organs or by directing attention to them, which, in the diseased mind, may give rise to hypochondriasis or actual delusions.

The existence of a genital center or centers is made certain by the influence of volition over the organs, the mental conditions found in cases of their non-development, and the existence of a spinal center. The cortical influence may reach the viscera by two paths: the vagus and spinal nerves. The vagus is the inhibitory nerve of the heart and gastro-intestinal secretions and the excito-motor nerve of the bronchi and gastro-intestinal canal, but the functions of the branches which go to the other viscera, as are also those of the fibers derived from the spinal nerves, are still uncertain.

Disturbance of the cortical control over the pneumogastric center shows itself by the changes, or even arrest of the heart's action, which occur during emotions, by the nervous cough and dyspnea, by the vomiting from disgusting stories, sights, tastes, or associations, with certain sounds, by the arrest of digestion, by the increase in the intestinal peristalsis and secretions, by jaundice, and changes in the urine. Purgation following the belief that a purgative has been swallowed, or from hypnotic suggestion, are clearly due to cortical influence, as are the visceral derangements found in insanity.

The uterus is also influenced by the cortex, either directly or through the vasomotor nerves, as shown by the arrest of menstruation and labor by emotions, and the production of abortion.

The trophic centers of the bones, joints, skin, and appendages found in the cord are also represented, like other spinal centers, in some part of the cortex, while the motor cortical centers possess marked trophic functions. A temperature center is believed to exist by some from the sudden rise in temperature which follows injury.—Gowers.

The existence of a vasomotor center is shown by the existence of spasms and the marked influence of emotions, as shown by the blush and pallor, by hemorrhages into the skin, brain, and lungs, by sweating, by changes in the milk, by cutaneous edema, by permanent dilatation and contraction of cutaneous vessels, and the intense visceral congestion found after injury to the optic thalamus.

Suggestion shows the cortical influence in the occurrence of cutaneous hemorrhages in the corresponding parts of the witness of an accident, or when a person falsely believes that they have been injured. Hysterical stigmata and hemorrhages belong to this class.—Tuke.

By hypnotic suggestion, M. Beaunis caused local spots of cutaneous congestion. M. Focarhan raised a blister, Bourru and Burot post-hypnotic nasal and cutaneous hemorrhages.—Bernheim.

The lower centers are found in the baselar ganglia, pons, medulla and cord. It is their function to receive peripheral impulses, to transmit these to the cortex, and to stimulate into activity the organs which they govern when prompted by the cortex, and, as in the higher centers, marked peripheral impulses may overcome the inhibitory power of the cortex, and the center discharges itself.

The known centers in this level are those of the cranial nerves, the motor, those of the various kinds of sensation, the cilio-spinal, the vasomotor, the genital, vesical, rectal, and trophic centers of muscles, bones, joints, and secretions. Besides these, Marat and Defour were able, by stimulating the branches of the spinal nerves to increase the destruction of glycogen in the liver without altering the hepatic circulation.

Nerve-fibers, near their termination, lose their medullary sheath, and the axis cylinder divides and subdivides until it is lost in a fine network among the fixed cells of the part, so that there is not an organ in the body which is not under the control of the nervous system, either directly or by its influence over the blood supply through the vasomotor nerves.

Each discharge by a nerve-cell is accompanied by both molecular and chemical changes, and if such discharges are violent or prolonged, they may become permanent, and altered function or degeneration occurs. Changes in the cortical centers from prolonged or violent mental action may produce corresponding ones in the lower centers, either by over-stimulation, increased or lessened inhibitory power, and such changes may persist even after the higher center has recovered.—Gowers.

In the same way, disturbances follow in the organs which they govern.

The situation of the visceral trophic centers is unknown, but it is probable that they are in the sympathetic ganglia, for disease of the cerebro-spinal axis, while it may alter functions, does not directly cause degeneration; but such functional disorders, if severe or long continued, may be followed by structural changes. In this manner, attention directed to some bodily organ, if accompanied by fear or belief in some result, may alter function, blood-supply and reflexes or produce permanent tissue-changes.—Billings.

The functional conditions so produced are usually those due to the increased inhibition which occurs with depressing emotions, such as fear or grief, or the subsequent loss of this function from overwork of the higher centers, and especially so when attention is directed to some organ by the belief that it is the seat of serious disease.

The organs in which we find abnormal conditions most often produced in this way are those under the control of the pneumogastric.

In this way depressing emotions by inhibiting the nutritive functions may cause rapid loss of flesh, strength, and color, prolong the course of already existing disease, and by lowering their vitality, render the tissues more liable to bacterial attacks, and especially in those diseases whose bacterial development is favored by intestinal disorders, as typhoid fever and cholera. The ptomaines, which are produced by abnormal metabolism, also play an important part in the etiology of disease, especially of the kidneys and nervous system, and thus, by the production of such ptomaines from psychic disturbance of nutrition, these diseases may arise. The diseases which, at the present time, are recognized to be due in one of these ways to psychic causes are :

1. Rapid loss of flesh, strength, and anemia or chlorosis, which often follow depressing emotions.

2. Attacks of rheumatism and gout are said to be precipitated by outbreaks of anger.

3. Gastro-intestinal disorders from violent or depressing emotions, such as the various forms of dyspepsia, acute and chronic gastritis, intestinal indigestion, jaundice, diarrheas, and enteritis.

3. Saccharine diabetes is sometimes the sequela of mental depression.

4. Functional cardiac disturbances, such as palpitation, tachycardia, bradycardia, irregularity, are not uncommon from violent emotions, and more rarely fatal arrest may occur, and certain sudden deaths occurring at a predicted moment are easily explained by the arrest of the cardiac action by fear.

5. Local pain, hemorrhages, swellings, and inflammation may occur as before stated.

6. In diseases of the nervous system we find the effects of violent mental action much more marked, and also degenerative changes occurring, especially when certain portions are predisposed to disease by inherited or acquired weakness. To this class belong progressive muscular atrophy and bulbar paralysis from anxiety, and epilepsy, chorea, and paralysis agitans from fright.

Emotional functional disturbances find their expression in the wry-neck and facial spasm of melancholia, the occupation neuroses from anxiety, the neuralgias from fright, and hysteria, with its manifold symptoms of spasm, paralysis, contracture, arthralgia, anesthesia, hyperesthesia, paresthesia, and other disturbances of special and general sensation, its crisis and peculiar mental condition often follow violent emotions. With hysterical phenomena may be classed a pseudo and sometimes fatal hydrophobia, where, from the fright induced by a belief in infection, the patient mimics the symptoms of the disease. Exophthalmic goiter also sometimes follows fright.

The volitional centers may also undergo changes, as shown by melancholia and periencephalitis from anxiety, acute mania from violent emotions, and primary dementia from fright. In studying the effects of mental influence upon already existing pathological processes, it is necessary to remember that all subjective symptoms, especially pain, are increased by directing attention to them, and a marked diminution or disappearance occurs if it is diverted, either by distracting the patient's attention or hetero- or auto-suggestion, and especially true if this suggestion

be accompanied by a firm belief in certain results (auto-suggestion).

Conditions of malnutrition are benefited, or even removed, by the increased functional activity found in cheerful mental states, and in this way the course of pre-existing diseases is favorably influenced and the patient's powers of resistance to the attacks of pathogenic germs increased.

Phthisis presents just such a combination of conditions, and is often improved for a time by the belief in the curative powers of certain agencies.

Dyspeptics will also, under certain surroundings, eat the most indigestible meals without discomfort. Constipation has been relieved or purgation induced by bread pills, or directing attention to the bowel by passing a magnet over the course of the colon. Cholera and dysentery are said to have been aborted. Pains of rheumatic, hysterical, or neuralgic origin have been relieved by the means of tractors, *i.e.*, suggestions.

Paralysis, whether originally due to the pain of rheumatism, organic nervous disease, or hysteria, in which the power of movement has returned without the patient's knowledge, as in organic disease, or where the pain of movement is relieved by distracting the attention, or due to diseased will, as in hysteria, are often much improved or cured by some form of suggestion, producing a strong effort of the will.—Tuke.

The hypnotic condition furnishes us with the best means of investigating the influence of the mind, for all persons, and especially children, are, even in the normal condition, more or less susceptible to suggestion, and it is in the hypnotic condition when the mind is concentrated upon the suggested idea that its power is clearly shown.

The following are the results which have been obtained by the use of this agent :

Hysterical paralyses, contractures, tremors, arthralgias, either idiopathic or excited by injury, amaurosis, amblyopias, deafness, hystro-epileptic attacks, pari- and hemiplegias, and hyper-, para-, and anesthasias, and their various forms of pain, are often quickly removed.

The pains of articular, muscular, or gonorrheal rheumatism and muscular strains are improved.

The pains of neuritis and the painful points of phthisis are improved.

The hysterical paralyses, contractures, and tremors so often

found complicating organic nervous lesions are cured, and the case thus improved.

Chronic chorea has been improved. The occupation neuroses improved or cured.—Bernheim. Sexual perversion improved or cured.—Nortzing.

Now the results obtained by the different occult agencies and those obtained by mental influence are the same, and the conclusions which I would draw are :

That it is the sudden and mysterious cures which have taken place in cases of hysteria simulating or complicating organic disease that have been chiefly responsible in keeping these various forms of belief alive.

That the mind can produce organic disease of the brain and cord, and functional conditions in the viscera.

That the mind has the power of improving or removing such functional conditions, and may thus modify the course of organic disease.

That anatomy and physiology both point to a much more important influence of the mind over the tissue changes than clinical observation has yet assigned to it.

That by educating the public to understand our methods we have done away with the mystery which surrounded the physician of old and injured the faith of our patients in us, thus destroying the valuable influence of suggestion which they unknowingly used and which is employed so successfully to-day by the advertising quack, with his secret remedies, electrical machines, and mysterious methods; and the successful results obtained to-day by certain physicians are undoubtedly due to the implicit faith which their patients have in them.

339 Lafayette avenue.

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VACANCIES IN THE MEDICAL CORPS OF THE U. S. ARMY.

There are at present three vacancies in the Medical Corps of the U. S. Army, and it is expected that at least three more will occur during the present year. As usual, an Army Medical Board will meet in Washington early in October for the examination of candidates. The requirements for admission to the Medical Corps are stated in a circular issued by the Surgeon-general of the Army, dated May 21, 1896, and approved by the Secretary of War. Copies of this circular may be obtained from the Surgeon-general.

DERMOID CYST OF THE OVARY, WITH PREGNANCY.

BY JAMES L. KORTRIGHT, M.D.

This patient is thirty years old, a native of U. S. A.; married. She began to menstruate at twelve and one-half years; at eighteen she suffered from dysmenorrhea. At twenty-one she was married, at which time she received local pelvic treatment for dysmenorrhea for six months without benefit. After three years she became a widow, not having been pregnant. She still suffered somewhat from pains at the menstrual period. On May 28, 1895, she began to be unwell, and on June 4th she again married. She became pregnant immediately and suffered from gastric symptoms till two and one-half months, when she was first seen and examined. This was about the 1st of September. At that time the uterus was enlarged, and behind, below, and to the left side of the uterus, crowding the cervix to the symphysis, was this mass, very much larger than shown here, fluctuating, with very rigid and resisting walls. The question was whether it was an abscess, whether it was a cyst, or whether it was an extrauterine gestation. A needle was introduced into the mass, and fluid giving all the macroscopic appearances of pus was withdrawn. This fluid was lost before it could be examined by the microscope. An attempt was then made under antiseptic precautions to puncture the sac and introduce a drain through the vagina. Before this could be accomplished, the tumor suddenly slipped beyond reach of the examining finger and the patient complained of an intense pain in the left inguinal region. This pain lasted for two days and was associated with a great deal of tympanites and abdominal tenderness, but without rise of temperature. Counsel was then sought as to further procedure. The tumor gradually enlarged so that on the 9th of December last, the patient being then in the seventh month of pregnancy, it was removed through the vaginal roof and proved to be a dermoid cyst of the left ovary. The fluid contents gave all the characteristics of cheesy pus, but were found to consist of granular detritus and oil globules, and to be entirely free from micro-organisms. The cyst contained hair and was lined by calcareous plates. Convalescence was practically afebrile, but was complicated by

the gastric irritability of pregnancy. Labor came on after twelve days and a male infant of six and three-quarter months' gestation was born. It weighed a pound and three-quarters, lived four days in an incubator, and died of absence of digestive power. There were no further symptoms and the patient was out of bed on the tenth day after labor, twenty-two days after operation.

The points of interest in the case are, the simulation of pus by the tumor's contents, the ease of removal by the vaginal route in uncomplicated cases, the combination of dermoid cyst and pregnancy, and brings up the point, which I hope will be discussed by the members, as to the time of election in this particular condition—whether it is better to remove such a tumor during the first two or three months of pregnancy, with the risk of miscarriage, or to wait until the child is viable, or whether it is better to take it at the sixth or seventh month, before the child is viable, when the uterus, perhaps, is most quiescent and least liable to react from traumatism.

I ought to add that the cause of labor was apoplexy of the placenta.

DISCUSSION.

Dr. Jewett: The case, Mr. President, I had the privilege of seeing, by the doctor's courtesy, and it was one of great interest. At the first examination, it was difficult to decide the question of intrauterine gestation. After a careful examination, I failed to find positive evidence of a living fetus in the uterus. A month later the fetal heart was easily found, and the pregnancy was evidently in the uterus. The tumor was impacted behind the cervix, pushing it against the symphysis. My impression at the time was that the growth was a dermoid cyst. Dr. Kortright had found a fluid resembling pus, but the woman was in too good health to be carrying pus in the pelvis, and there was no history leading up to pus.

Immediate operation was agreed upon, with the expectation that the interference would not disturb the pregnancy. Probably it would have been better if it had been delayed till the ninth month, when the viability of the fetus would have been greater. Certainly an operation was indicated before labor began, for it would have been a serious complication of labor to evacuate the tumor at that time, and delivery by the natural route would have been impossible with the tumor intact.

I removed, during the summer, an ovarian cyst from a woman three months pregnant, the pregnancy going on without interruption. That was done by the abdomen. In Dr. Kortright's case,

the operation by the lower route was chosen as involving less danger to the patient, yet in pregnancy the mechanical disturbance of the adnexa necessarily involved in operating from below possibly means greater danger of miscarriage than operation by the upper route.

Dr. Dickinson : I merely have the suggestion to make, that since we see laparotomy done with impunity in so large a number of cases without disturbing pregnancy, and inasmuch as an easy operation in this case, through the vaginal route, did interrupt pregnancy, is it not possible that the mechanism of the beginning of labor was due to the disturbance of the cervical ganglion? I think those who are studying the matter lay great stress on the cervical ganglion and its function as being the irritable center initiating labor, and it is possible we will have to work less through the pelvis and more through the abdomen in such cases. I do not mean this to be a stricture on the operation. It is simply a guess bearing on the matter.

Dr. L. G. Baldwin : As long as the operation in this case was done at this time without waiting for viability, it seems to me there would have been less danger if it had been done through the abdomen, because if it proved to be pus, an ovarian abscess, or a pus tube, there would almost surely be suppuration following, which would have been a very dangerous condition to have with labor.

Dr. Jewett, in reply to Dr. Grant Baldwin: Is it to be assumed that suppuration is liable to follow the removal of a pus tube? Pus tubes do not always contain active pyogenic bacteria. This pus may sometimes be smeared over the peritoneum, yet no trouble come from it.

Dr. Kortright: I think it would have been very difficult to have gone behind that large, pregnant uterus and removed the tumor by the abdominal route. The cervix was very close to the symphysis and the tumor was below the uterus and behind it. Up to the third month it was movable, but after that it was fixed by the large uterus.

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JOHN BYRNE, M.D., LL.D.

The degree of Doctor of Laws has been conferred upon Dr. John Byrne by St. Francis Xavier College.

A NEW METHOD FOR THE PRESERVATION OF SPECIMENS.

By ERNEST PALMER, M.D.

I have two specimens I wish to present, principally to show how well they may be preserved for presentation to societies at a greater or less time after removal. These two specimens happen to be both tube cases. One was removed on the 17th of December and the other on the 21st. Dr. Seymour, the Assistant Pathologist of the Hoagland Laboratory, experimented with them and devised a method of his own to keep the specimens in their fresh state. To do this, he made a little cage of wire gauze and then suspended the specimens with threads in the cage, covering the whole with ordinary gauze, then putting it in a refrigerator and surrounding with ice, which did not come in contact with the specimens.

These specimens which were taken out on the 17th and 21st of December, respectively, as you will see, contain considerable pus in the tubes. They have been kept in a temperature of less than forty degrees since the day of the operation. They were put in these cages within an hour from the time of their removal from the patients and have not been subjected to a lower temperature than that of to-day (about forty degrees) since then, but they will decompose rapidly in a higher temperature.

I will give the history in brief of the cases.

Mary S., aged twenty-nine years, American, married four years, one child three years old; no miscarriages. First menstruated at sixteen years, duration about six days. First complained five weeks ago of a severe pain in the left ovarian region after straining in lifting, followed by a hemorrhage from the uterus. She last menstruated on December 11, 1895, at which time it was very profuse for six days, and following this she complained of severe headache, pain in both ovarian regions, with rectal and vesical tenesmus and general tenderness all over lower abdominal region.

Examination revealed a mass, seemingly continuous with uterus on the right side and extending downward into the pouch

of Douglas, and almost immovable. This patient also had uterine hemorrhage for two weeks, four months ago, and each subsequent menstrual flow was very scanty, and continued so until the December period. The patient was admitted to the L. I. C. H., December 18th, and was operated on December 21st, and has so far made an uninterrupted recovery.

Rosa B., aged twenty-three years, German, married two years and never pregnant. First menstruated at thirteen years and was normal until three months ago, when it became too frequent (three weeks), and profuse, and continued so until date of operation, accompanied by profuse leucorrhea, backache, headache, rectal and vesical tenesmus, constipation, pain all over the lower abdomen, etc.

Examination revealed an enlarged tube and ovary adherent to posterior wall of the uterus.

Patient admitted to the L. I. C. H., December 11, 1895, and operated on December 17, 1895, when it was found that both tubes were distended with pus and folded behind the uterus and firmly adherent to it, and were both removed, with the ovaries, as presented here.

In neither of these cases have I opened the tubes. In the first one I aspirated and drew off with a syringe quite a little pus, confirming the diagnosis of pyosalpinx; and in the other there were very marked evidences of interstitial thickening, which I think can be demonstrated by simply handling the specimen. I make this presentation principally to illustrate that the specimens can be kept two or three weeks perfectly fresh and odorless and with their natural appearance after operation.

Dr. Byrne: I would merely like to ask, Mr. President, whether the preservation of this specimen was due to the temperature at which it was kept, or whether any chemical was used?

Mr. Palmer: There was no chemical used; nothing but keeping them in a continued equal temperature of from thirty to forty degrees. The doctor tried to regulate it at about forty degrees, I believe.

Dr. Dickinson: Is there any limit to the time they can be kept?

Dr. Palmer: We do not know. It is entirely an experiment. One has been kept seventeen days and the other thirteen days.

EXCESSIVE INTESTINAL FERMENTATIONS.

BY ELIAS H. BARTLEY, M.D.

Read before the Medical Society of the County of Kings.

The fermentative changes ordinarily taking place in the alimentary canal exercise an important rôle in the economy. But when they proceed beyond a certain point they become a menace to both health and comfort, and require restraining treatment. A great variety of bacteria are to be found in the intestinal canal, in health, which are increased in numbers and variety in certain disturbed conditions of the digestive process. Something over fifty varieties of bacteria have been isolated, and there are probably others that have not been isolated, or that occur only in isolated cases. It is not our purpose to enumerate the bacteria isolated in different conditions. Much yet remains to be known of the relation of each to the disturbed conditions of the digestive canal. It is sufficient for our present purposes to know that they exist as a cause of certain well-known disturbances of digestion, or as accompaniments of such disturbances. In their behavior, some of these organisms are aerobic, or facultative, while others are strictly anaerobic. Some of them attack the carbohydrates (sugar, starch, cellulose, dextrine, etc.), while others thrive upon the proteids in solution, and to a less extent, or with difficulty, upon solid proteids. The former changes are produced principally by the aerobic and facultative bacteria, while the latter are produced by the anaerobic varieties. Fortunately for us, the two varieties of fermentations are antagonistic to each other, and seldom both occur in excess at the same time. It is only when one or the other of these processes becomes excessive, that we become aware of their existence by disturbances of health. Even in such a condition, the effects vary within such wide limits, that many persons experience little if any discomfort, while others suffer severely. While it is not always easy to differentiate them, we ought to recognize two conditions of excessive intestinal fermentation, viz.: the one confined chiefly to the changes produced in the carbohydrates, with the production of an excessive amount of organic acids, hydrogen, marsh gas, and carbonic acid; the other confined principally to changes produced in the already

digested, or partially digested, albuminous portions of the food, with the production of hydrogen, CH_4 and in smaller amounts, CO_2 , N , H_2S , and various aromatic bodies, chief among which are indol, skatol, phenol, cresol, catechol, and cystin, and certain diamines generally known under the name of ptomaines.

The first of these conditions probably never occurs as a distinct disease, but is a result of an imperfect digestion of the carbohydrates, from a deficiency in the salivary or pancreatic digestion. Macfayen, Neucki, and Sieber found in a case of intestinal fistula at the lower end of ileum, that the decomposition present, referable to micro-organisms, was entirely confined to the carbohydrates. It is a symptom of digestive disorders which gives us much trouble and often demands separate recognition and treatment, because this fermentation produces irritating substances which aggravate the primary disease. The characteristic feature of this form of fermentation is the production of acetic, lactic, butyric, and other organic acids, and the development of gases that distend the intestines and produce pain and either an increase or a diminution of peristalsis. This over-production of the organic acids may seriously interfere with the digestive processes in the intestines by rendering their contents acid in reaction, and entirely destroying pancreatic activity, and the failure of fat emulsification and absorption. It is evident that serious disturbances of nutrition may occur if such a condition should continue for a considerable time. The irritating effect of these organic acids, especially of butyric acid, upon the mucous membranes has attracted the attention of a number of authors, and it has been regarded by some as the cause, in some cases at least, of the symptom known as heartburn. I have no doubt that catarrhal inflammation of the duodenum and small intestine may be produced, in a previously healthy person, by feeding him upon an easily fermented saccharine diet. It is the fermentation or putrefaction of the proteid portions of food that gives rise to the most marked disturbances of health. This putrefactive process follows pancreatic digestion of proteids in a small degree, in normal conditions, and only becomes excessive and pathological when this process is incomplete; or, if for any other reason the proteids are not readily absorbed or are too long retained in the intestine. It is therefore a pretty constant feature of intestinal indigestion, and the symptoms are so intimately mingled with the primary disease that it is not an easy matter to differentiate the symptoms due to the indigestion from those dependent upon

the putrid fermentation. It is certain, however, that intestinal putrefaction and intestinal auto-infection are distinct and recognizable entities, accompanied by certain, though variable, morbid symptoms. Putrid decomposition of proteid substances gives rise to a number of more or less poisonous cleavage products, which have received the generic name of toxalbumins or toxins. The cleavage of the proteid molecule is accomplished by the growth of bacteria in the solution, the particular character of the products depending upon the nature and conditions of the material, the conditions under which it is placed, and the kind of bacteria that attack it. The conditions best suited for the process are a previous digestion, or partial digestion, of the proteid, a neutral or slightly alkaline medium, and little or no free oxygen. We should add to these conditions, the presence of catarrhal mucus in the mass or solution which greatly enhances the putrefactive process. These conditions are given by intestinal indigestion, with absence of any marked increase of the gastric acidity or of acid fermentation in the duodenum. It is evident from the above, that we ought not obtain the same cleavage products in every case of putrid decomposition of the intestinal contents, for it is hardly possible that the conditions would always be the same, or that the same organisms would always be present in the canal. This fact may help us to understand why the symptoms of intestinal putridity are so variable, and why in some cases we see little or no disturbance of health, while in others we have such profound local and remote disturbances.

The difficulties in the way of obtaining the intestinal contents for examination, and the complexity of the conditions liable to vary the process, make it difficult to study the nature of the substances formed. Nor can we rely upon experiments conducted in the laboratory, for it is impossible to control all the conditions. Nor is it safe to rely upon experiments upon the lower animals for exact information on this subject.

The diagnosis of excessive intestinal fermentation is usually not difficult when the symptoms are well marked, which they are not in all cases. The symptoms of the first variety above mentioned are those of the condition generally known as acid or fermentative dyspepsia, which condition it is usually associated with, *i.e.*, distension, colicky pain of a migratory character, soreness of the abdomen, excessively acid urine, and the symptoms of the uric acid diathesis, as hemicrania, intercostal neuralgias, etc. An important means of diagnosis in these cases is afforded

by observations upon the effects upon the symptoms of certain groups of foods. In this way much may be learned.

Constipation is often a marked feature in gastric indigestion, and in some way the gastric disturbance inhibits peristalsis. I have seen the ingestion of an excess of sugary food cause constipation, and have attributed it to the disturbing effect of the sugar upon the stomach digestion. It is certain that constipation, by retarding the onward movement of the food, favors fermentation. This is proven by the marked improvement in the symptoms after a free catharsis.

The symptoms of putrid fermentation in the intestine are, like those of the other variety, very variable. The putrefactive fermentation of soluble proteids out of contact with air, either in the laboratory or in the intestinal canal, is known to produce certain more or less poisonous substances. The exact nature of these substances is not fully known, but I have indicated the extent of our knowledge in the enumeration of some of them. It is generally admitted that the effects of putrid fermentation are both local and remote. It is a matter of doubt whether we are able to distinguish the local effects of the putrid matter from the effects of the intestinal indigestion with which it is apt to be associated. The most marked local symptoms of fermentation are pain and flatulency. The pain is usually attributed to the distention, and the consequent stretching of the muscular fibers of the muscular coat of the bowels, causing spasmodic contraction.

The irritation of the mucous coat may also have some part in the production of the spasm. Other symptoms, which may be due to the irritation of the products of the fermentation, or to the mere tenderness of the mucous coat of the bowel, are malaise, slight febrile movement, nervous depression, sleeplessness, melancholia, headache, vertigo, urticaria, hemicrania, and other remote disturbances. It will be observed that the production of gas is common to both forms of intestinal fermentation, but it does not always accumulate enough to cause distress, but is discharged per rectum. At other times the distention is so great as to interfere with respiration and cause distressing dyspnea. This dyspnea is so marked in some cases, that it suggests serious heart lesion. In fact, one can hardly believe that there is no heart lesion until he sees the symptoms disappear completely after a free evacuation of the bowel, and without the use of any heart stimulant. The author has had under treatment a gentleman who has suffered from attacks of dyspnea and cardiac depres-

sion, even serious enough to have caused edema of the lungs on one or two occasions, which have generally been relieved by a milk diet with free purgation. I should add that the diagnosis of a fatty heart has been made, but heart stimulants do not relieve the shortness of breath as completely nor as quickly as a dose of calomel followed by a milk diet for a few days. The urine has been repeatedly examined, and during the attacks a trace of albumin has been found, but no other evidence of nephritis. The albumin disappears when the attack is over. I have not confirmed the diagnosis of putrid fermentation by a quantitative estimation of the sulphates, but have relied upon the qualitative tests, and the test for indican, and upon the general symptoms and result of treatment. Whether this is a fatty heart with temporary periods of dyspnea, accompanied with putrid fermentation, or a condition due to auto-infection alone, it matters not, so long as we recognize the influence of the intestinal condition. During the intervals of freedom from shortness of breath, which may last for weeks or months, the patient expresses himself as feeling perfectly well, and is able to do hard manual labor with ease. Nausea and anorexia are sometimes complained of, but these more often indicate gastric disturbance.

Anorexia, or even disgust for food of any kind, is not an unusual thing in putrid fermentation, as seen in infants and young children. Perhaps the most certain connection between putrid fermentation and the symptoms above referred to as being due to it, may be demonstrated by the cases of acute food poisoning. In most of these cases there is a fairly constant period of incubation of from three to four hours. The author has observed several instances where a whole family became ill within a few minutes of the same time, about three or four hours after eating of food in a state of incipient decomposition. The distinct period of incubation is proof that the effects are not due to the irritation of the food itself, or to poisons already formed before the food is eaten, but to the irritation of the mass after some hours of fermentation in the stomach, or in the digestive tube below the stomach.

It is a frequent observation that those members of such a group who have been the subjects of digestive disorders before the accident, suffer more profoundly than those who were previously well. Indeed, it is not rare that some persons will escape entirely, while others will suffer severely from the same cause. Besides the usual epigastric pain, vomiting, intestinal spasmodic

pain, diarrhea, and cardiac depression, all of which can be explained by the local irritation of the fermenting mass, we are accustomed to see certain indirect or remote symptoms, such as muscular spasms, fever, convulsions, dilatation of the pupils, paralyses more or less marked, especially oculo-motor paralysis, urticaria, etc., which have been styled reflex disturbances. But some of these are certainly caused by absorbed poisons.

Where such a result follows the ingestion of spoiled food, taken by a previously healthy person or persons, we are warranted in the assumption that the symptoms are the result of poisons developed in the gastro-intestinal tube during the period of incubation, or the three or four hours between the time of eating and the illness.

The vomited matter is usually in a state of active fermentation, and the stools are excessively offensive or putrid. This is an important aid in the diagnosis. There is a striking similarity between cases of acute food poisoning and the cases of so-called biliousness, so frequently seen in both children and adults, and the cause is usually the same, *i.e.*, poisons derived from the fermentation of the intestinal contents. The febrile disturbance, as might be anticipated, is more marked in children than in adults, but is not always wanting in the latter. Intestinal putrefaction in infants is attended with fetid stools, rise of temperature, nervous irritability, loss of appetite, colic and loss of flesh. These symptoms may continue for weeks, as the most marked feature of intestinal catarrh. The recognition of the fermentative element in cases of atrophy due to intestinal catarrh is of the greatest importance, as it is often the key to the treatment. Fever, as an accompaniment of intestinal disturbance, is variable and inconstant.

In some cases it runs high, while in others it may be entirely wanting. Thus far we have spoken of intestinal fermentations only as occurring in connection with indigestion, or by itself. There is another aspect of these conditions no less important, *i.e.*, when they occur as a complication of some other diseases. We are all familiar with the serious results that often follow indiscretions in diet, in persons with organic heart or renal diseases. Indeed, we have seen a fatal result follow an attack of acute indigestion in a person already weakened by such disease, when, in all human probability, he might have lived some time had such accident not occurred. Biernacki, in 1891,* first called atten-

* *Deutsch. Arch. f. klinische Med.*, Band 69, Heft i, 1891.

tion to the fact that chronic nephritis and icterus are commonly associated with an excess of the products of interstitial putrefaction. His observations have been confirmed by others. Senator, Von Noorden, Sir Andrew Clark and others have found an excessive intestinal putrefaction associated with anemia, chlorosis, and leukemia.

Sir Andrew Clark* regards anemia as caused by the absorption from the intestine of substances harmful to the blood, and that are formed in consequence of intestinal putrefaction. The dependence of some cases of melancholia upon putrefactive changes in the intestines is sufficiently well known. The occurrence of putrefaction in association with epilepsy has been frequently observed and recorded. A careful examination of the relation of the increase of the putrefaction to the epileptic seizure has been made by Herter and Smith,† which led them to the conclusion that, in some cases of epilepsy, the occurrence of this condition appears, at times, to determine the epileptic seizure.

There is no doubt in the mind of the author of this paper that the condition under discussion plays an important part in the production of chorea. He has observed at least two cases in which he believed he was able to trace this cause. They were both cases that recurred: a second time in one, and a third in the other.

Others have observed the close connection of the two conditions. The nervous phenomena connected with intestinal putrefaction are often very marked. Apart from the depression of spirits or melancholia of putrefactive changes, I have thought that certain neuralgias and general nervous irritability are most marked in the excessive carbohydrate fermentation. This may be due to the irritation of the nervous system by the uric acid so often produced in excessive quantity in such fermentation. It is probable that some cases of what have been called nervous prostration (a somewhat incomprehensible term to me), if carefully analyzed, would be found to be dependent upon some such pathological condition as we are discussing.

A careful examination of the urine affords us much information of diagnostic value. We have already called attention to the increase in the amount of uric acid usually, if not invariably, excreted in cases of excessive fermentation of the carbohydrates in the digestive canal. We have also mentioned certain aromatic

* "Anemia and Chlorosis of Girls," *Lancet*, 1886, ii, p. 1003.

† *N. Y. Med. Jour.*, September 3, 1892.

substances as being formed during the putrefaction of proteid bodies, among which are indol, skatol, phenol, cystin, etc. Also certain diamines, or so-called ptomaines. All of these substances are absorbed and eliminated by the kidneys.

The aromatic substances are partially oxidized in transit, and are eliminated in combination with sulphate of potassium. Indol appears as potassium-indoxyl sulphate, and the others as potassium-skatoxyl sulphate, potassium-phenol sulphate, and cystin.

These substances are generally spoken of collectively as ethereal sulphates, to distinguish them from the ordinary preformed sulphates found in all urines. Any increase in the putrefaction of the proteids of the food, in the intestine, will increase the production of the ethereal sulphates eliminated by the urine. They thus become an index of the activity of the putrefactive process going on in the intestine. Without stopping here to inquire into the evidence on which this statement rests, we may say that it is now pretty generally admitted by all workers in this field. The quantity of these ethereal sulphates, as well as that of the ordinary or preformed sulphates, is increased by a diet rich in proteid matter as well as by putrid fermentation. Also, after the ingestion of salol, benzosol, creosote, resorcin, and like remedies. As the preformed sulphates and the ethereal sulphates increase and decrease about in the same proportion, with these variations in diet, some writers, as Biernacki, Hoppe-Seiler, Baumann, and Rovighi, hold that an increase in the ethereal sulphates may mean nothing, unless the ratio of these to the preformed sulphates is disturbed. The normal ratio is about one of ethereal to ten of the preformed sulphates. In cases of marked putrid fermentation the ratio sinks as low as 1 to 2, or 3. Other equally good writers object to this ratio, and prefer to be guided by the actual increase of the ethereal sulphates.

A very practical limitation to the use of such information, lies in the time consumed in a quantitative estimation of these sulphates. This is out of the question with a busy practitioner, even if he possess the requisite skill.

The same difficulty does not hold in the case of the aromatic substances, or at least in one of them, viz., indoxyl.

This coloring matter has been studied more than the other aromatic substances found in the urine, because of the ease with which it may be detected. The reaction is easily obtained, when the substance is present, by adding to the urine an equal volume of strong hydrochloric acid, then a drop or two of a freshly-pre-

pared solution of chlorinated lime, and shaking the mixture with a small quantity of chloroform. If indoxyl be present it will be converted into indigo blue by the chlorinated lime and be dissolved in the chloroform, which, on separating, shows a blue color.

This test gives, in normal urine, but a faint reaction, or none at all. A very decided blue reaction is generally indicative of proteid putrefaction in the intestines, though sometimes outside in the tissues. As a clinical test it is then of considerable value.

The other aromatic substances that are found in the urine as a result of putrefactive changes in the food are not so easily detected. It should be remarked that indigo red is sometimes present, and then the chloroform becomes a red or violet color.

Just what conditions determine the production of indol and what skatol or phenol are not known. According to Filati, indol is produced only in the small intestine, while skatol is produced when the putrefaction takes place mostly in the colon; but this notion lacks sufficient confirmation for us to accept it as a fact.

According to Neumeister* and Leube,† when a urine containing skatol is exposed to the air this substance undergoes rather rapid oxidation, with the formation of a red coloring matter. The same change takes place rapidly when nitric acid is added to the urine, or more slowly when strong hydrochloric acid is used. In the presence of indigo this red coloring matter is not taken up by chloroform. After shaking out the indigo with chloroform, however, the red skatol coloring matter may be dissolved out with amyl alcohol. Or, as the addition of chloride of lime is not necessary for the production of the red skatol coloring matter, we may shake it out with amyl alcohol before adding the chloride of lime solution. In this way we may separate the two colors, and thus get more information as to the products of putrefaction than by testing for indoxyl alone. In using this method, I have observed that in some cases very little of the red coloring matter can be separated, while indigo is present in considerable quantity. In other cases I have seen almost no indigo and a strong reaction for skatol. It is to be hoped that we shall soon learn the significance of skatol. In any case of doubt, this reaction for indol and skatol will usually clear up the diagnosis. It is to be recommended as a guide for antiseptic measures in cases of intestinal fermentation.

* *Physiolog. Chem.*, 1895, p. 278.

† *Virchow's Archiv*, Bd. 106, 1886, p. 418.

TREATMENT.

The treatment of excessive intestinal fermentation involves the treatment of the indigestion, or other diseases, upon which the former usually depends.

It must also depend upon a careful diagnosis of which one of the above-mentioned varieties of fermentation predominates; whether the fault be in an imperfect digestion of the carbohydrates, and a fermentation of the unabsorbable residue, or whether the trouble is one that concerns the proteids. It would lead us away from the object of this paper to attempt to discuss the general topic of indigestion. We will therefore consider only the one element of indigestion, viz.: the fermentative element. It must not be forgotten that this condition is frequently associated with many other diseased conditions than functional digestional disturbances.

We frequently have cases of organic heart disease, epilepsy, chorea, melancholia, or nephritis, in which the distress is largely due to or greatly aggravated by intestinal fermentation.

This fact must be kept in mind while treating these primary diseases. As we might expect, the character of the food taken exercises an important influence upon intestinal fermentations.

By close observation we can usually determine what articles of food are followed by an increase of flatulency and other evidences of intestinal disturbance. In conjunction with this, it will be well to test the urine. Observations upon the effects of diet are not always entirely satisfactory, because we are not able to control everything that our patients eat, and thus may be misled. It does, however, often give us great assistance in selecting a suitable diet for special cases. We should remark here that no specific and inflexible rules for diet can be given to suit all cases. The experience of the patient must be our guide in a great measure.

Hirchler,* by experiments in the laboratory and upon dogs, reached the conclusion that sugars, dextrin, lactic acid, and glycerin have, to a slight degree, the power of hindering the putrefaction of proteids. His experiments, however, are not very conclusive. These foods, as Boas remarks, often increase the acid fermentation, with the production of lactic, butyric, and acetic acids and flatus. Liebig found that bread made with yeast is less injurious to digestion than that made with baking powders.

* *Zeitschr. f. Physiolog. Chem.*, Bd. x, p. 306.

Some cases of acid fermentation find more comfort in the use of rye bread or whole-wheat bread than with ordinary bolted-wheat bread. Gluten bread is often of service, or a bread made with a mixture of gluten and ordinary flour. Aleurone, peanut, bean, and almond-flour bread are not easy to get, and of doubtful service in cases of excessive putrefaction, if not positively harmful.

There can be no doubt that a diet rich in sugars will aggravate the symptoms in cases of acid fermentation, and even starchy foods sometimes undergo this change to an uncomfortable degree.

Animal proteids are more easily digested in the stomach than the vegetable proteids. For this reason, the former are better borne in putrid fermentation than the latter. The leguminous foods should be prohibited in such conditions. The succulent vegetables may be well borne in some cases, while not in others. Eggs are often well borne in both kinds of cases; but I have seen them precipitate an attack of most distressing fermentation, with melancholia almost amounting to a temporary insanity. If eggs are well chopped up before being eaten, so as to increase the rapidity of digestion, they may usually be allowed. Foods containing a considerable cellulose, as cabbage, cauliflower, spinach, etc., will usually aggravate the intestinal disorder.

In general, any food or condition that will produce salivary or gastric indigestion, or gastric or intestinal irritation, must be avoided.

The most marked influence of diet upon intestinal putrefaction is shown in the use of milk and cheese. Bacteriological examination of the feces before and after the use of an exclusive milk diet, the chemical estimation of the aromatic sulphates and indoxyl excreted by the urine, and abundant clinical observation, all agree as to the great influence of a milk diet in checking intestinal fermentations.

The same result is obtained with kumyss, buttermilk, and pot-cheese, as with milk. Winternitz found that milk has a marked influence in preventing putrefaction in solutions of proteids, outside of the body. Karl Schmidt* has recently tried to determine the cause of this action of milk. By feeding experiments, tried with milk-sugar and casein, he concludes that milk-sugar, or casein alone exerts no such action. He found that the result was more striking with cheese than with milk, even when the cheese

* *Zeitschrift f. Physiol. Chem.*, Bd. xix. p. 378.

was sterilized by heat. The result of his experiments seems to indicate that the inhibitory effect is due to the casein and milk-sugar combined; or, rather, to the milk-sugar, aided by casein. The cheese used in his feeding experiments was that known as pot-cheese. It is a well-known fact that old cheese, as Swiss cheese, will increase butyric intestinal fermentation in some persons, and will frequently produce diarrhea, with acrid, burning stools, due to the butyric acid. A Chicago physician has found by experiment that intestinal antisepsis can be secured by kumyss. Gilbert and Dominici found by experiments upon dogs, rabbits, a man, and a woman, that in five days the number of microbes in the feces was reduced to $\frac{1}{65}$ of the original number. They attribute the action of the milk to the fact that it is so completely digested and absorbed that there is little left for microbes to feed upon; also, to the production of lactic acid, which has an inhibitory action upon the growth of the *bacillus coli*, the principal bacterium of the intestinal canal. This last notion is supported by the action of kumyss, buttermilk, pot-cheese, and free lactic acid, when administered. In a few persons, the subjects of gastric fermentation of saccharine matters, milk is not well borne, and some persons, the subjects of fermentation, are unable to tolerate milk at all. My experience has been that many of these persons can tolerate sterilized milk, provided that it is accompanied with some antiseptic and a laxative.

Indeed, a laxative is often a necessity in the employment of an exclusive milk diet, and without it there will be intolerance. The relief from the flatulence, colicky pains, shortness of breath, and other symptoms in certain cases, when put upon an exclusive milk diet, is a marvel. In the intestinal disturbances of persons the subjects of cardiac and Bright's disease, a milk diet affords great relief. Raw milk has been shown to have more diuretic effect than sterilized milk, and is preferable to the latter in most cases, especially in Bright's disease.

Attempts at the disinfection of the intestinal canal by the use of antiseptic medication have been somewhat disappointing.

Before the "antiseptic era" of recent times, certain empirical remedies were in common use in the treatment of this condition, which have lost none of their popularity, in spite of the flood of new remedies that have been proposed.

R. Stern (*Zeitschr. f. Hyg. u. Inf. Krankh.*, 12 Bd., 1892) calls attention to a point in the disinfection of the intestinal canal that is often overlooked, viz.: That the action of an antiseptic in the

intestinal canal depends in part upon its easy or difficult solubility, and hence upon its more or less rapid absorption and disappearance from the canal.

Among the remedies which have been used for a long time, and which exercise a disinfecting effect upon the intestinal canal, calomel should have first place.

It does not alter the stomach digestion in any degree, and in the intestinal canal it has a strong disinfecting power on proteid putrefaction.

It also increases peristalsis, and thus hurries out of the canal any decomposition products that may have formed. Even if given in minute doses, often repeated, it checks the production of H and H₂S without producing much increase of peristalsis, and seems to have a beneficial influence upon the catarrhal process in the intestine. The bismuth salts have long held a prominent and well-deserved place in the treatment of intestinal diseases.

The basic salts of this metal are those usually employed, and they have an antacid as well as a disinfecting and local anodyne effect.

Recently new combinations have been presented for our trial in the salicylate, subgallate, beta-naphthalate, benzoate, phenolate, pyrogallate, albuminate, etc. Of these, the salicylate, the benzoate, the subgallate, and the naphthalate have certainly some value as intestinal antiseptics, although they do not bear out the claims that have been made for them.

Naphthalene and its derivatives, B.-naphthol, benzo-naphthol, and hydro-naphthol, have undoubted value as intestinal antiseptics, and differ from many others that have been recommended by their insolubility in the juices. They therefore remain largely in the intestine, and exercise their antiseptic action throughout its entire length. Herter and Smith found that up to six grains three times a day B.-naphthol and hydro-naphthol do not decrease the ethereal sulphates of the urine.

The antiseptic action of hydrochloric acid is now pretty well understood, both in the stomach and in the intestines. It certainly assists very materially in controlling the symptoms in many cases, and Schmitz found that it lessened the ethereal sulphates in the urine.

Probably a part of the benefit derived from the administration of hydrochloric acid is in its stimulation of the peristalsis, thus hurrying on the food, and its effect in improving the digestion. Creosote, also, acts beneficially from its antifermentative action

and from its increasing the motor function of the stomach. Chloroform has been strongly recommended by Salkowski, Roberts, and others. Dubs found that it, in addition, promotes pancreatic digestion when given in small doses with hydrochloric acid. Ewald uses a solution of chloral (3 to 5 per cent.) in teaspoonful doses every two hours. Resorcin is probably one of the best intestinal antiseptics known. It has been highly recommended by some of the best observers, and in my hands has proved as satisfactory as any tried. Owing to its sedative and appetizing effect, it is more satisfactory than most of those above mentioned.

Salol is highly spoken of by some authors, but my own experience with it has been disappointing in every respect. It is not well borne by the stomach in doses large enough to be of service as an antiseptic, and its generation of a large quantity of phenol in the intestine makes its use open to a serious objection.

Salacetol, a somewhat similar compound, but without the phenol part of the molecule, is, on theoretical grounds, a much safer remedy. It has been given with good results in intestinal fermentation. From the few times I have used it, I could not speak with certainty.

Sodium salicylate is too soluble to remain long in the intestine, and hence its use as an intestinal antiseptic has been disappointing.

One serious difficulty in the use of the antiseptics is, that when used in sufficient doses to have any value in the intestine, they seriously interfere with normal digestion. Kuhn* has determined the per cent. of a number of the disinfecting agents necessary to check fermentation in the stomach. He finds that:

Acid Salicyl. requires	0.0025,	or about	1.8	grs. per pint.
Sod. Salicyl.	" 0.0025,	"	1.8	" "
Sod. Benzoate	" 0.03	"	2	" "
Saccharine	" 0.05	"	3.6	" "
Acid Carbol.	" 0.1	"	7.3	" "
Resorcin	" 0.25	"	18	" "
Creosote	" 0.5	"	36	" "
Acid Boric	" over 1	or over	72	" "
Aqua Chlori	" 5	or about	364	" = $\frac{3}{4}$ oz. per pint.
Alcohol	" 5	"	364	" = $\frac{3}{4}$ " "

According to these figures, salicylic is the most active of the

* *Centralb. f. klin. Med.*, 1891, No. 21.

list, but it is also very active in its irritating effect upon the gastric mucous membrane, and soon disturbs the digestion.

The same may be said, though in a less degree, of sodium salicylate, which sets free all its acid in the acid gastric juice.

By a combination of two or more of these agents, we may use smaller doses of each and get a better effect than with one alone. It must be said, in closing this subject, that we must not place implicit faith in any of the so-called intestinal antiseptics alone. But when given in combination with agents that increase peristalsis, and hurry along the intestinal contents, they are of service. When resorcin, for example, is administered with castor oil or magnesia, it is much more effective in securing the disinfection of the intestinal canal, as I have often proven to my satisfaction, than when given alone. In any attempt at intestinal disinfection we should aim to empty the canal as frequently as the condition of the patient will allow.

We may refer very briefly to the possibility of accomplishing a great deal by irrigation of the colon. I cannot speak with the same certainty in the case of adults as I can of children.

My experience leads me to think that, by high irrigations of the colon, we may not only wash out any poisons that this part of the intestine may contain, but we may even affect the whole small intestine.

This may be accomplished by the stimulation of the peristalsis of the small bowel, and hurrying along the contents, and thus lessening absorption, or we may at times actually wash out a portion of the small intestine. It is not an unusual thing, in high injections, for the water to pass the ileo-cecal valve. I have seen milk vomited by a lady within half an hour after a high enema consisting of milk. I am positive that the patient had taken no milk for some weeks, and no food by the stomach for two days, and had had her stomach washed twice during that time. Whatever may be the explanation of the action of these high injections, the relief from the effects of putridity is sometimes rapid and marvelous. Nor is the improvement always merely temporary, but it may continue for a considerable time. This fact is so well known that it has become a matter of routine practice to wash out the lower portion of the colon, when we are called upon to treat convulsions in a child, especially if we suspect the cause to be in the intestinal tract. In choleraic diarrhea, the benefit of such irrigations is probably not alone due to ridding the bowel of

poisons, but partially to their effect upon the temperature, and partly to the absorption of a part of the water by the tissues. .

The effects of intestinal irrigations are of undoubted benefit, and should not be forgotten as a means of treatment in acute cases of intestinal disturbance.

DISCUSSION.

Dr. H. A. Fairbairn : Dr. Bartley's paper is certainly very scholarly. He has shown us what has been done to lift this department of medicine from the region of empiricism. Such knowledge is of itself valuable. I am very glad that he has read his paper before the Society, for now it will be added to our libraries.

The first thing that he emphasizes is the necessity for the diagnosis. A person who is suffering from chronic fermentative changes in the intestinal canal is a suspicious person, and as such needs a most thorough examination. I used to dislike these cases very much. I like them now, simply for the interest there is in searching for the causes, and I really think, that, outside of the artificially fed infant, you rarely meet primary fermentative changes in the intestine chronic in character. Where you find them chronic you are almost sure to unearth some structural lesion as the primary cause. If you do find an acute case or a chronic case not depending on a structural lesion, I think the causes can be brought together under three chief heads : that of errors of diet, of deficient innervation, and the presence at times of the parasites, such as the *tænia solium*, *ascaris lumbricoides*, etc., which may be overlooked while we philosophize about the microscopic bacteria. We must not underrate the latter, however.

To get at the errors of diet, it has been my custom to order the patient to note down for a week every article of drink or food taken, and then to return the paper to me. After the necessary eliminations and additions, the list is returned to the patients for them to use as a guide. The advantage of this is that it gives you exact knowledge of the patients' habits, and then, above all, it gives you a knowledge of their special desires in this line, and unless you cater to these latter to some extent you are not going to be very successful, if the case be protracted.

I spoke of the artificially fed infant as presenting typical intestinal fermentations, and this is generally due to the attempt to introduce into the infant's digestive organs something that

ought not to be introduced. Milk must be the basis of diet in artificially fed infants, and the attempt to replace it by anything else is certainly going to be attended with harm. I speak from a large experience. I think Dr. Bartley, in time past, has very ably pointed that out. One would think, from the number of predigested foods, pancreatinized and peptonized foods on the market to-day, that the infant's digestive glands had gone out of service. I think that it is necessary for us to impress on the layman's mind that milk must be the basis of the infant's diet, and that, although modern research has given valuable adjuncts in this line, it has not succeeded in replacing nature's food.

Now, as to the medicinal agents, I use a few only—calomel, I think, is the first. Salophen I use, also bismuth salts and carbonate of guaiacol. The latter is insoluble, tasteless, and very slowly decomposed, and I have found great benefit from it not only in this trouble, but also in phthisis. You can introduce enormous quantities of creosote by this salt, which you cannot do in any other way. Then there is another medicine—saccharine, which is very valuable, not poisonous, and certainly has served some purpose.

We must not forget another remedy—nature's product—the bile. Given in the dried form, in pill, with an alkali, it is at times of great service.

Dr. J. Fuhs: I heard only that part of Dr. Bartley's paper which related to the treatment of excessive intestinal fermentation.

Having determined the kind of trouble we are dealing with, whether fermentation or decomposition of the albuminoids, it is necessary to locate the cause, in order to successfully treat this difficulty.

Functional as well as organic diseases of the intestines, and displacements of these organs, might cause this condition.

In other cases the primary disease is found in remote organs, or in a general dyscrasia.

Of the many remedies recommended to directly influence excessive intestinal fermentation, I can testify to the value of carbonate of guaiacol, benzo-naphthol, calomel, and salicylate of bismuth. The administration of alkalies is of great benefit, especially if given in combination with some of the above-mentioned remedies.

A formula which I have often prescribed, and found to be of decided value, is one containing equal parts of salicylate of bismuth, calcined magnesia, and bicarbonate of soda.

Dr. Bartley : Mr. President, I have not very much to say in closing the discussion.

The gentlemen who have kindly discussed my paper did not do exactly what I expected they would do, that is, criticise my distinction between the two entirely distinct fermentative processes.

Dr. Fuhs referred to one that he calls fermentation and the other decomposition. I call them both fermentation. It is simply a question of name, one acting principally upon the carbohydrates and the other upon the proteids. The latter is very often simply called decomposition instead of fermentation.

In the matter of treatment I entirely discarded the whole question of indigestion, and simply treated of one phase of indigestion, the fermentative phase. I made no attempt to discuss the question of indigestion in general. The gentlemen who have discussed the paper have supplied very largely that deficiency in the paper, for which I thank them.

♦♦♦

RELATIONS OF MEDICAL EXAMINING BOARDS TO THE STATE, TO THE SCHOOLS, AND TO EACH OTHER.

Dr. William Warren Potter of Buffalo, President of the National Confederation of State Medical Examining and Licensing Boards, chose this title as the subject of his annual address at the sixth conference of this body held at Atlanta, May 4, 1896.

He said there were three conditions in medical educational reform on which all progressive physicians could agree—namely, first, there must be a better standard of preliminaries for entrance to the study of medicine ; second, that four years is little time enough for medical collegiate training ; and third, that separate examination by a State Board of Examiners, none of whom is a teacher in a medical college, is a prerequisite for license to practice medicine. It is understood that such examination can be accorded only to a candidate presenting a diploma from a legally registered school.

He concluded by urging united effort by the friends of medical education, saying that "the reproach cast upon us through a refusal to recognize our diplomas in Europe cannot be overcome until we rise in our might and wage a relentless war against ignorance, that shall not cease until an American State license is recognized as a passport to good professional standing in every civilized country in the world."

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EDITORIAL.

LICENSING EXAMINATIONS.

The approaching adoption of a four years' course in all the medical colleges of the State of New York suggests a renewed discussion of the question of divided examinations. Shall the candidate for the license to practise medicine pass a portion of his examinations, those in the elementary branches, at the end of two years' study, and the others, the practical ones, after his graduation, or shall he pass them all after receiving his diploma, and when he is about to enter on the practice of his profession? This is the question which now more than ever before calls for discussion and settlement.

At a meeting of representatives of the medical colleges and of the State Board of Medical Examiners, the opinion of the colleges, with but one dissenting voice, was unanimously in favor of the divided examination. The reasons for this were that practical experience had demonstrated that if students could be relieved of the elementary studies at the end of their second year, they would devote their final year to clinical studies more assiduously and with more profit than they would if compelled to keep their memories fresh on the minutiae of chemical formulæ and anatomical relations. The ruling thought in the student's

mind is to get the right to practise medicine and gain his livelihood, and everything is sacrificed to this. Innumerable opportunities, which are presented in every large city for the acquisition of clinical knowledge, are allowed to pass unavailed of, and the time is spent in keeping up the anatomical and other fundamental knowledge for fear that at the final test the result may not be successful.

The subject of final examinations has been of late receiving considerable attention in England. In the General Medical Council Mr. Teale submitted the following :

That the present system of accumulated examinations and the enormous increase in the number of rejections resulting from it are not only unjust to the student but damaging to medical education; therefore, that the time has arrived when the General Medical Council should consider: (a) How far examinations and the occasions of rejections can be reduced in number; (b) how far, while maintaining effective examinations in those subjects which every man should "know" and "retain the knowledge of," it is possible to withdraw from the sphere of public examination several other subjects which it is desirable that every medical man should "know about," but with the details of which he need not permanently burden his mind, the "bird's-eye survey" of such subjects being insured by compulsory short courses of lectures with class examinations certified by the teacher.

It appears, from the remarks of Mr. Teale, which were published in the *British Medical Journal*, that the number of rejections is steadily increasing. In 1861, the percentage was 12.4; in 1876, 22.2; in 1880, 28.9; and in 1892, 38.9. It is his opinion that the student's mind and time are absorbed in cramming for the final examination rather than in educating himself for his profession.

In commenting on this subject the *New York Medical Journal* says :

Mr. Teale's criticisms, we fear, would apply elsewhere than in England. We think there is too great a tendency in the United States to make the final examinations unnecessarily difficult to pass and unpractical in their character. No medical student who comes up for the degree can be expected to have at his tongue's end sixty per cent. of all existing medical knowledge. The examinations are directed too much toward finding out what a man's stock of memorized facts amounts to, and too little toward ascertaining how far he has learned the art of studying by himself and how well qualified he is by natural gifts.

At the request of the colleges, the State Board of Medical Examiners of the State of New York is considering this question of the divided examinations, and the conclusions are eagerly awaited by college authorities and students alike.

THE ANTI-VIVISECTION MOVEMENT.

It is exceedingly gratifying to all true lovers of medical science to observe the general condemnation which the movement to prohibit vivisection in the District of Columbia has aroused. While the proposed legislation by Congress would have its application only in the restricted area of the District, still the moral effect upon the country at large would be great, and a precedent would be established whose influence would be difficult to counteract. It is a prevailing opinion among the laity that professional men delight in inflicting torture upon animals, and that it is only under the spur of public opinion or the heavy hand of the law that anæsthetics are used, whereas the fact is that there is no class of men more tender-hearted than those who practise vivisection, and none that more appreciates the sufferings of animals or is more desirous of mitigating them to the greatest degree possible. At the same time the needs and welfare of the human race are regarded as paramount.

In an address recently delivered by Professor H. P. Bowditch on "The Advancement of Medicine by Research," this subject is discussed in a most dispassionate manner, and great good would be accomplished if a copy of it were placed in the hands of every anti-vivisectionist.

There are a few points which may be referred to as affording food for thought. The physiologist stands on higher moral ground than that occupied by most persons whose occupation leads them to sacrifice animal life: the sportsman, for instance. He refers to the statement of Professor Yeo that seventy-five per cent. of possibly painful physiological experiments are rendered absolutely painless by the use of anæsthetics, and that of the twenty-five per cent. actually painful experiments, twenty per cent. are about as painful as vaccination, four per cent. as the healing of a wound, and one per cent. as painful as an ordinary surgical operation without anæsthetics.

In discussing the value of the discoveries made through vivisection, Dr. Bowditch refers especially to the preparation of antitoxins. That he is a firm believer in the efficacy of this method of treatment, in diphtheria at least, is evidenced by the following language:

The therapeutic use of antitoxin, though still in its infancy, shows by the unimpeachable records of hospital practice that the physician has now within his grasp the means of successfully treating one of our most dreaded diseases

The anxiety, almost amounting to despair, with which a physician formerly approached a serious case of diphtheria has given place to a feeling of well-grounded hope of a favorable result. Who can estimate the burden of terror and distress thus removed from the anxious watchers by the bedside, and who will dare to say that the boon has been dearly purchased by the lives of some thousands of guinea-pigs?

His conclusion is as follows :

We see, then, in one way or another experiment must form the basis on which medical science is to be built up. The question for us to decide is, "Shall these experiments be few, carefully planned, conclusive, economical of animal life, or shall they be numerous, accidental, vague, and wasteful of human life?" I think in settling this question we may safely take for our guide the words of Him who said, "Ye are of more value than many sparrows."

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society Building, 356 Bridge street, on Tuesday evening, June 16, 1896.

The President, Dr. Geo. McNaughton, in the chair.

There were about seventy-five members present.

The minutes of the May meeting were read and approved.

REPORT OF COUNCIL.

The council reported favorably upon the applications of the following gentlemen and recommended that they be elected to membership :

Dr. Wm. C. Schoenijahn, P. & S., 1894.

Dr. Henry H. Waugh, Wooster Univ. Ohio, 1891.

Dr. Caroline S. J. Rickards, Wom. Med. Col., Pa.

Dr. Charles Gartner, Albany, N. Y., 1895.

Dr. Henry L. Winter, Univ. N. Y., 1892.

Dr. Gustav Liebermann, Univ. N. Y., 1887.

Dr. Wm. C. Weekes, Univ. N. Y., 1896.

Dr. Cyrus Hamlin, L. I. C. H., 1894.

PROPOSITIONS FOR MEMBERSHIP.

The Secretary presented the following :

Dr. Geo. Essig, 488 Bedford Ave.: Bellevue Hosp. Med. Coll., 1893; proposed by Dr. W. M. Wheeler, Dr. D. Myerle.

Dr. K. Rose Owen, Woman's Med. Col. of Baltimore, 1896; proposed by Dr. May Owen, Dr. D. Myerle.

Dr. Edward Hodges, St. John's Hospital, L. I. C. H.; proposed by Dr. H. T. Hotchkiss and Dr. Geo. McNaughton.

Dr. Walter Truslow, 145 Clinton Street; L. I. C. H., 1895; proposed by Dr. H. T. Hotchkiss and Dr. Geo. McNaughton.

Dr. Ira Ayer, Cropsy Ave. and Twenty-third Ave.; L. I. C. H.; proposed by Dr. Geo. McNaughton and Dr. E. H. Mayne.

Dr. Alfred Bell, 287 Irving Ave.; P. & S., N. Y., 1895; proposed by Committee on Membership.

Dr. E. S. Mors, 288 President Street; Mahany Cent. Tenn. Coll., 1896; proposed by Committee on Membership.

Dr. Abe Hayman, 73 McKibben Street; Univ. Med. Coll. N. Y., 1890; proposed by Committee on Membership.

ELECTION OF MEMBERS.

The following having been regularly proposed and favorably acted upon by council, were declared by the President, elected to membership :

Dr. Charles S. Williamson, Coll. P. & S., 1891.

Dr. Eliz. G. Gilkison, Univ. Syracuse.

Dr. H. W. Haskell, N. Y. Univ., 1891.

SCIENTIFIC BUSINESS.

"Rhus Poisoning," by J. H. Hunt, M.D. Discussed by Drs. Emery, Winfield, Briggs, Pierson, and Bartley.

"Inhalations in Phthisis, with a new form of Inhaler," by Dr. A. J. Dower. Discussed by Drs. Evans, Bartley, Van Cott, Emery.

"The Artificial Feeding of Infants," by H. A. Bunker, M.D. Discussed by Drs. E. E. Smith, Briggs, Fuhs, Bartley, L. Grant Baldwin, C. E. Clark.

In this paper Dr. Bunker stated his method to be as follows :

A solution of hydrochloric acid in milk is secured by adding 20 to 30 drops of a ten per cent. acid to one pint of water and then mixing thoroughly with one quart of milk. This mixture is then boiled with constant stirring for twenty minutes, or is kept at the boiling temperature for that length of time in an Arnold sterilizer. If the milk shows decided acidity to blue litmus, the milk acids should be neutralized with lime water before further preparation. Dr. Bunker states that in milk three hours old he has added the acid to the amount of two per cent. without curdling.

Due credit is given Dr. Jacobi, as originating the idea. Dr. Bunker has elaborated and endeavored to perfect a method.

REPORTS OF COMMITTEES.

Dr. Geo. A. Evans presented the report of the Committee on Public Health, embodying the following resolutions, which were unanimously adopted :

RESOLVED, That this Society requests the Commissioner of Health of this city, to stringently enforce the existing ordinance relating to the construction and operating of heavy vehicles, especially ash wagons, as well as those which are competent to abolish, if necessary, or to modify the inevitable street noises so prevalent in this city.

Resolved. That it is the opinion of the members of this Society that the rendering of a large amount of garbage on Barren Island, and the discharge of a large amount of water into the inlet charged with putrescible organic matter, is detrimental to the comfort and the health of persons living on the neighboring shores of Brooklyn.

Resolved, That this Society respectfully asks the Commissioner of Health to protest against the use of such a plant as will contaminate the waters that wash any part of the water-front of this city.

UNFINISHED BUSINESS.

Upon the recommendation of the council the following were declared Honorary members of this Society, viz :

Dr. H. R. Storer, Newport, R. I.

Dr. William Pepper, Philadelphia, Pa.

Dr. William Welch, Johns Hopkins University, Baltimore, Md.

There being no further business, on motion the meeting adjourned.

D. MYERLE, M.D., *Secretary.*

BROOKLYN MEDICAL SOCIETY.

At a recent meeting of this Society there was given a practical demonstration of the Röntgen rays, from a surgical standpoint, with exhibition of shadowgraphs and apparatus, by William Stubenbord, M.D., of New York, assisted by Professor H. W. Schimpf, of Brooklyn.

BROOKLYN SURGICAL SOCIETY.

March 5, 1896.

CARCINOMA OF RECTUM; COLOSTOMY; DEATH FROM PULMONARY THROMBOSIS.

Dr. Pilcher presented a carcinoma of the upper part of the rectum, with the following history. The patient was a woman, some fifty years of age, always in good health until within the last year, during which she had experienced some digestive disturbance, which, however, was not serious. The most noticeable thing about her condition was her having two or three scanty stools daily. About a week before the final denouement she had an attack of vomiting and pain in the abdomen and found herself obstinately constipated; as a result of cathartic and enemata, after a day or two of treatment, some fecal discharge was procured, from which time no fecal discharge took place. Several days having elapsed, Dr. Pilcher saw the woman, in consultation with Dr. Fairbairn of this city, under whose charge she was. The abdomen was somewhat distended, but not excessively so. There was no great tenderness at any point, nor was there anything which could be felt by external examination which gave any clue to the cause of the constipation. The finger introduced into the rectum, however, could feel, high up, just within reach, a growth of some kind which seemed to surround the rectum. A diagnosis of malignant growth in the lower portion of the large intestine was made, and she was taken to the Methodist Hospital and the preliminary incision for a colostomy made. Through the usual opening in the left inguinal region, the finger was introduced for exploration. The finger, passed into the pelvis, determined again from that point of examination the presence of the same growth which had been felt before from the anus. It seemed to be limited in its relations and apparently was one which might readily be reached for removal through the usual sacral operation. The descending colon was then brought up and secured in the usual manner in the wound, and the usual dressings applied.

The operation was borne without any special disturbance upon the part of the patient, but some twelve hours after the operation, up to which time the patient had been apparently in perfectly good condition, a sudden change for the worse was manifested; she complained of a sense of oppression and of loss of feeling in

one arm ; her pulse became very rapid, her respirations frequent, and in a few hours she died. Upon *post-mortem* examination, there was found multiple thrombosis in the pulmonary vessels. Her brain was not examined.

The specimen of the disease of the gut was removed and presented by Dr. Pilcher. The growth was seated in the rectum at about eight or nine inches above the anus, and only a limited portion of the rectum was involved in the disease. By its contraction it had stenosed the intestine so completely that a small sound only could be passed through.

Dr. Pilcher said that he presented the specimen as another example of the often recurring experience that far-advanced stenosis of the intestine may take place with very little appreciable or external evidence of trouble having occurred. Such specimens had been presented before to the Society and doubtless would be again, since they are continually occurring in the experience of surgeons. They even illustrate the difficulties which attend the efforts to arrive at a diagnosis in intestinal obstructions. The unexpected nature of the complication, which caused the death in this case, gave it an increased interest. There was nothing in the history of the case which would have led one to expect such an accident, so that it could not have been foreseen, nor could the result of it have been in any way prevented. The case is likewise another illustration of the uncertainties which must ever attach to surgical efforts.

PRACTICAL APPLICATION OF THE NEW PHOTOGRAPHY.

At the June meeting of the Brooklyn Pathological Society, Dr. Delatour reported two cases in which foreign bodies had been removed from the fingers, after they had been there for twenty years. The diagnosis was made in both cases by means of the Röntgen rays.

AMERICAN DERMATOLOGICAL ASSOCIATION.

A meeting of this Association will be held at the Hot Springs of Virginia, September 8, 9, and 10, 1896,

Everything will be done to make the meeting a success, and several papers on interesting subjects have been already promised.

Dr. White will open a general discussion on the subject, "What Effect do Diet and Alcohol Have Upon the Causation and Course of the Eczematous Affections and Psoriasis?"

HISTORICAL DEPARTMENT.

JOHN BARREA ZABRISKIE, M.D.

Dr. John Barrea Zabriskie was president of the Medical Society of the County of Kings in 1839, having been the eighth in line of succession of presiding officers, of the, at that time, young Society.

He was the son of Rev. John L. Zabriskie, A.M., and Sarah Barrea Zabriskie, who at the time of the future doctor's birth, resided at Greenbush, opposite Albany on the Hudson. John must have been a favorite name in the Zabriskie family, for we learn that his grandfather was also named John, making with Dr. John L. Zabriskie, whose biography and portrait also appear in this number of the JOURNAL, and the present John B. Zabriskie, M.D., son of John Lloyd Zabriskie, five succeeding generations each represented by one of the name.

His maternal grandparents were John Barrea, and his wife Sarah De la Montayne.

When six years of age his parents removed to Millstone, N. J., where he attended the village school, and with the aid of a private teacher was prepared for college, after which he became a student at old Union, in Schenectady, where his father had been a member of the first class graduated in 1797. He left college in 1823, and the following year began the study of medicine in the office of Dr. William McKeesick of Millstone, and became a student in the College of Physicians of New York in 1825 and 1826, and was licensed to practise medicine by the Medical Society of the State of New Jersey. Not being satisfied with this legal qualification, which was then so common, he entered the University of Pennsylvania, and received from it the degree of M.D. in 1827.

He began private practice of his profession in the City of New York the same year. In 1830, however, he removed to New Lots and thence to Flatbush, where he married Miss Abby L. Lott, and established his permanent home, where he spent the remaining eighteen years of his life in the active practice of medicine.

He joined the Medical Society of the County of Kings in 1829, and that he began at once to take an active part in its work is shown by the fact that he was a censor and secretary in 1831-2.

and vice-president in 1833, 1834, and 1835 and was president in 1839.

He also represented the county organization in the State Medical Society in 1829-31, where he presented a paper on the "Medical Topography of Kings County," which was published in the transactions for 1832.

Another of his publications is an article on "*Sanicula Marilandica* in the Treatment of Chorea," to be found in the *American Journal of Medical Sciences*, vol. xii, 1846.

We are told that the doctor was a man of peculiarly diversified talent, and "his hours of relaxation were devoted to the scientific pursuits of music, botany, horticulture, etc. He was interested in photography and took pictures by the camera long before it came into general use; he experimented with electricity and galvanism, and left many plaster casts of groups and medallions of his own modeling."

He was, in 1832, a member of the Flatbush Board of Health, and in 1847 superintendent of the Flatbush school district, which included New Lots.

Besides these positions he was at one time physician in charge of the Kings County Almshouse, and at another, surgeon to the 241st Regiment New York State Militia.

He also held the position of trustee of Erasmus Hall Academy, and was an elder in the Reformed Church.

He died in 1848, of a contagious disease contracted in his professional career, when but forty-three years of age.

His portrait is given in another portion of this journal, and is the precursor of a series of the early presidents of the Society.

J. H. H.

JOHN LLOYD ZABRISKIE, M.D.

Dr. John Lloyd Zabriskie was the oldest child of Dr. John Barrea Zabriskie and Abby Lefterts Lott, and was born on the 26th of August, 1831, in the old family homestead, which, for long years, was a historic landmark at the corner of Flatbush avenue and Church lane.

The Zabriskie family are of Polish extraction, the first of the name being a religious refugee, who, with other emigrants, settled at Hackensack, N. J., about 1662. Along this ancestral line are the names of men and women who were eminent for learning and piety; his father having been an eminent physician and man of

letters, and his grandfather a clergyman of the Reformed Dutch Church. On the maternal side he was equally fortunate. Peter Lott, the first ancestor of the Lott family in America, settled in Flatbush in 1652. His grandfather on the mother's side was Jeremiah Lott, who was clerk of the Board of Supervisors uninterruptedly for forty-two years, and held a captain's commission in the State militia; while his mother was truly a "Lady of the Olden School," sweet-faced and lovable, whose very presence breathed a benediction.

As her husband died when the oldest boy was only seventeen years of age, he owed to her fostering and loving care his future success.

He received his early education at Erasmus Hall Academy—then at the zenith of its glory—and later pursued his literary career at the University of New York, where he graduated in 1850.

He immediately began the study of medicine in the office of Dr. Timothy M. Ingraham, who was his father's friend and successor, and after attending the requisite number of lectures at the University of the City of New York, received his degree of Doctor of Medicine from that institution in the spring of 1853. He served as interne in the Kings County Hospital one year, and then began the private practice of medicine in his native town, and so continued until the time of his death, November 11, 1895.

Thus it will be seen that he was in the active pursuit of a laborious profession for forty-two years—and that uninterruptedly, with the exception of rare intervals of rest.

As a physician he was painstaking and conscientious, ever ready to serve his clients day or night, in fair weather or in foul. The regard in which he was held by those to whom he had ministered, was abundantly testified by the deep emotion and silent tears displayed at his funeral, as well as by the numerous garlands of flowers which graced his bier.

For nineteen years he was physician to the Kings County Penitentiary, and during that period two fearful scourges of Asiatic cholera ravaged the institution, carrying off hundreds of its inmates, still he never shrank from his duty or abandoned his post.

He was connected with the Kings County Hospital all his professional life, and was consulting physician from 1877 to the time of his death, a period of eighteen years. He was also consulting physician to the Long Island College Hospital for thirteen years.

These figures give one some idea of the years of gratuitous service rendered by the members of our hospital staffs.

He was also a member of the Medical Society of the County of Kings, member of the Council of the Long Island College Hospital, a trustee of Erasmus Hall Academy, a member of the Brooklyn Board of Education, and an honored elder in the Reformed Dutch Church of Flatbush. Dr. Zabriskie was eminently social in his nature and passionately fond of music.

He generally enjoyed robust health and had a pleasant smile and kindly word for all with whom he came in contact, and was particularly careful not to wound or hurt the feelings of others.

For many years he was the leader of a musical society, and never seemed happier than when, with violin in one hand and bow in the other, he lead his followers successfully through the difficult mazes of an oratorio, or through the bewildering measures of a grand symphony. This love of music was born in him and he inhaled its influence through all his life, for his father and all his family were musicians.

This love of music, together with the sweet presence of a saintly mother, made the Zabriskie household a most charming abode, and contributed in no small degree to the character and happiness of its inmates, for it was in his own household that Dr. Zabriskie was ever seen to the best advantage.

He was a loving husband, a tender father, a faithful brother and friend. In all the relations of life, whether domestic, social, or public, he was the model of a Christian gentleman.

In the full tide of a successful career, he was suddenly taken from us.

We miss his bodily presence, but his memory and example remain with us.

HOMER L. BARTLETT,
ALEXANDER HUTCHINS,
JOEL W. HYDE,

Committee.

HISTORICAL COMMITTEE.

REPORT OF SECRETARY,
WILLIAM SCHROEDER, M.D.

In presenting this, my first annual report, it is with a certain amount of pride and pleasure that I am able to note the advances made in this department during the last year, true it required considerable work and attention in securing books of reference, such

as catalogues of the various medical colleges in the United States, and the proceedings of the State and County Societies, Medical Registers, and printed matter relating to this Society and its members. I am pleased to say that in a large degree members of this Society have assisted materially in this direction, and I should be unmindful of my duty not to acknowledge the assistance received from Drs. Joseph H. Hunt, J. H. Hobart Burge, John Harrigan, Jonathan S. Prout, Joseph H. Raymond, L. D. Mason, R. M. Wyckoff, George E. West, Andrew Otterson, and Mrs. J. S. Young.

This Society is now in possession of a complete record of its membership from 1822 to December, 1894, bound in five large volumes, together with a general index, the names having been arranged alphabetically as near consistent with the year of admission to membership in this Society as possible. The biographical portion is complete in about one-half of the membership, and we desire at this time to again impress upon those of our members who have not given this subject a little of their time and attention to kindly send to the committee a short biography of themselves.

It may be interesting to know how the various medical colleges have been represented in this Society from April, 1822, to December, 1894. After a careful examination, we find the list of college graduates to be as follows, giving the name of the first medical college, when physicians have graduated from more than one:

Licensed by State or County Societies.....	30	
University of Pennsylvania, Medical Department....	36	39
“ Yale, “ “	24	
“ City of New York, “ “ “	158	
“ Harvard, “ “	22	
“ Maryland, “ “	7	
“ Buffalo, “ “	8	
“ Virginia, “ “	3	
“ Transylvania, Ky., “ “	1	
“ Georgetown, D. C., “ “	2	
“ Michigan, “ “	14	
“ Wooster, Ohio, “ “	1	
“ California, “ “	1	
“ Vermont, “ “	7	
“ Howard, D. C., “ “	1	

Universities of Germany, Medical Department.....	33
“ Austria, “ “	3
“ England, “ “	5
“ Scotland, “ “	8
“ Canada, “ “	8
“ Spain, “ “	1
“ France, “ “	1
“ Denmark, “ “	2
“ Russia, “ “	2
“ Italy, “ “	1
“ Ireland, “ “	4

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College Physicians and Surgeons, New York....	235
Dartmouth College, Medical Department	12
Bowdoin College, “ “	5
Vermont Medical College	14
Long Island College Hospital	259
Jefferson Medical College.....	25
Berkshire Medical Institution.....	5
College Physicians and Surgeons, Fairfield.....	2
Albany Medical College	17
Philadelphia College of Medicine	1
New York Medical College.....	12
Castleton “ “	3
Georgetown “ “	1
Kemper (Mo.) Medical College.....	1
Bellevue Hospital Medical College.....	117
National Medical College	4
Cleveland “ “	2
Detroit “ “	1
St. Louis “ “	1
Ohio “ “	4
College Physicians and Surgeons, Keokuk, Ia.	2
Woman's Medical College, New York Infirmary....	14
“ “ “ Philadelphia, Pa	3
Geneva Medical College.....	1
Texas Medical College and Hospital	1
College Physicians and Surgeons, Ontario	2
Medical Chirurgical College, Pennsylvania.....	1
College Physicians and Surgeons, Baltimore.....	3
Cincinnati Medical College.....	1
Rush “ “	2

Chicago Medical College.....	1
Gross Medical College, Denver, Col.....	1
Woman's Medical College, Baltimore, Md.....	1
College Physicians and Surgeons, Indianapolis	1
Worcester Medical College	1
	— 756
Licensed by State or County Societies... ..	39 members.
Fourteen Universities, Med. Dept. American .	285 “
Eleven “ “ “ Foreign... ..	68 “
Thirty-five Medical Colleges.....	756 “
	— Total, 1148

The loss in membership during the same time has been as follows :

Died in active membership	223
Removed	406
Expelled.....	7
	— Total, 636
In active membership, December, 1894.....	512
	— Total, 1148

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Physicians in Kings County who have received the degree of Doctor in Medicine, “Honorary,” by the Regents of the University :

1829. Joseph G. T. Hunt.....	Died June 25, 1848
1851. Purcell Cook.....	“ Dec. 24, 1860
1856. Samuel J. Swalm.....	“ Aug. 27, 1872
1858. Nelson S. Garrison	“ Jan. 26, 1872
1860. Harrison Teller.....	
1867. John Van Ness.....	“ Sept. 17, 1895
1872. Cornelius H. Schapps.....	

HONORARY MEMBERS IN KINGS COUNTY OF THE NEW YORK STATE MEDICAL SOCIETY.

1832. Thomas Wilson Henry.....	Died Feb. 26, 1864
1870. William Henry Thayer.....	
1891. William McCollom.	

PRESIDENTS OF THE MEDICAL SOCIETY STATE OF NEW YORK FROM KINGS COUNTY.

1866. Joseph C. Hutchison.....	Died July 17, 1887
1876. Edward R. Squibb.....	
1883. Alexander Hutchins	
1892. Lewis S. Pilcher.....	

PERMANENT MEMBERS OF THE MEDICAL SOCIETY, STATE OF NEW YORK,
FROM KINGS COUNTY.

1857.	Samuel Hart.....	Died Sept. 3, 1878
1859.	John Ball.....	" Apr. 1, 1890
1861.	Edward R. Squibb.....	
1862.	Theo. L. Mason.....	" Feb. 12, 1882
1864.	Joseph C. Hutchison.....	" July 17, 1887
1865.	James M. Minor.....	" Mar. 23, 1879
1866.	Agrippa Nelson Bell.....	
1871.	Samuel Fleet Speir.....	" Dec. 19, 1895
1874.	Alexander Hutchins.....	
1876.	J. H. Hobart Burge.....	
1877.	Benjamin A. Segur.....	
1878.	Charles H. Giberson.....	" Apr. 19, 1879
1879.	Walter B. Chase.....	
1879.	Arthur Mathewson.....	
1879.	Jonathan S. Prout.....	
1880.	Richard M. Wyckoff.....	
1881.	William H. Dudley.....	" Oct. 9, 1886
1882.	Frank W. Rockwell.....	" Apr. 30, 1889
1882.	John D. Rushmore.....	
1884.	Samuel Sherwell.....	
1885.	George G. Hopkins.....	
1885.	Edwin N. Chapman.....	" Mar. 2, 1888
1886.	Charles Jewett.....	
1886.	William C. Otterson.....	
1886.	John C. Shaw.....	
1887.	Jarvis S. Wright.....	
1888.	Lewis H. Miller.....	
1889.	Paul H. Kretzschmar.....	" Apr. 27, 1891
1889.	A. Ross Matheson.....	
1889.	George R. Fowler.....	
1890.	William Maddren.....	
1890.	Mary R. Owen.....	
1891.	Fred. D. Bailey.....	
1891.	Charles E. De La Vergne....	" June 4, 1892
1891.	George A. Evans.....	
1891.	Lewis S. Pilcher.....	
1891.	Frank E. West.....	
1891.	Charles N. Cox.....	
1892.	Z. Taylor Emery.....	
1892.	Joseph H. Hunt.....	

1892. Andrew Otterson.....
 1894. Glentworth R. Butler.....
 1894. H. B. Delatour.....
 1894. Joel W. Hyde.....
 1894. John A. McCorkle.....
 1895. William Browning.....
 1895. George E. Law..... Died May 25, 1895
 1895. George McNaughton.
 1895. Joshua M. Van Cott, Jr.....
 1895. James McF. Winfield.....
 1895. Reuben Jeffery.....

(To be continued).

NEW BOOKS AND BOOK NOTICES.

TRAINED NURSES' DIRECTORY. Composed of names carefully selected by prominent physicians and surgeons of New York and vicinity from their private lists. Compiled and edited by M. Louise Longeway, Graduate of the New York Training School, Bellevue Hospital. Published semi-annually in May and October. Price, \$1.

It is the aim of this directory to furnish a list of nurses, who are graduates of training schools giving a two, or more, years' training in the hospitals of not less than one hundred beds, who have had one year additional training in private duty, and are recommended by prominent physicians and surgeons of New York and vicinity. In addition to these, the names of Albany and Orange nurses have been added. The directory is indorsed by Drs. Janeway, Lusk, and other well-known physicians.

TWENTIETH CENTURY PRACTICE: An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D. In twenty volumes. Volume V.—Diseases of the Skin. New York: William Wood & Company. 1896. Pp. 905.

The following are the contributors to Volume V.: Charles W. Allen of New York, writes on the Anatomy of the Skin and its Appendages; L. Duncan Bulkley of New York, on Parasitic Diseases; Henry H. Whitehouse of New York, on Erythematous and Bullous Affections; James Nevins Hyde of Chicago, on Eczema and Dermatitis; H. Radcliffe Crocker of London, on Squamous, Phlegmonous, and Ulcerative Affections; L. Brocq of Paris, on Papular Affections; Arthur Van Harlingen of Philadelphia, on Diseases of the Sebaceous and Secret Glands; Douglas W. Montgomery of San Francisco, on Diseases of the Hair and Nails; John T. Bowen of Boston, on Benign Neoplasms; Moritz Kaposi, of Vienna, on Xeroderma Pigmentation; and H. Leloir of Lille, on Dermatoneurosis.

A system of medicine would, of course, be incomplete without a volume on diseases of the skin, and this is, perhaps, the principal *raison d'être* for Volume V. Certainly the subject has been pretty well threshed over during the past few years, and in whatever respects medical literature is lacking it certainly is not in the department of dermatology. As one would expect from the list of contributors, the articles are well written and the principles enunciated authoritative.

DON'TS FOR CONSUMPTIVES ; OR, THE SCIENTIFIC MANAGEMENT OF PULMONARY TUBERCULOSIS, ETC. By Charles Wilson Ingraham, M.D., *The Call*, Binghamton, N. Y. 1896. Pp. 218.

The main objects for which this book was written are to outline to the physician and consumptive a method of general management of the patient; to indicate to the patient how he may obtain the full benefits of the curative forces of nature; to point out how an immunity from tubercular contagion may be created and maintained; and to educate the invalid so that he will not be a menace to the public.

The book is a very practical one, and should be in the hands of every consumptive.

A TEXT-BOOK UPON THE PATHOGENIC BACTERIA FOR STUDENTS OF MEDICINE AND PHYSICIANS. By Joseph McFarland, M.D., Demonstrator of Histology and Lecturer on Bacteriology in the Medical Department of the University of Pennsylvania, etc. With 113 illustrations. Philadelphia: W. B. Saunders. 1896. Pp. 359. Price, \$2.50 net.

Dr. McFarland has succeeded in putting into a concise form the essential facts of bacteriology so far as it relates to the production of disease. He claims nothing more than this, and candidly acknowledges his indebtedness to Huppe, Flugge, Sternberg, Fränkel, Gunther, Thoinot, Masselin, and others. It is an excellent book for both physician and student.

ELECTRICITY IN ELECTRO-THERAPEUTICS. By Edwin J. Houston, Ph.D., and A. E. Kennelly, Sc.D. New York: The W. J. Johnston Company. 1896. Pp. 402. Price, \$1.00.

The publishers of this volume have already published a number of books on electricity in its various applications, under the title of Elementary Electro-technical Series. This one on Electro-therapeutics belongs to that series. The writers are well-known experts in everything pertaining to electricity, and what they write comes with authority. The book will, we are sure, be welcomed by the profession, and will be of interest to others outside of medical circles.

VOICE-BUILDING AND TONE-PLACING. Showing a New Method of Relieving Injured Vocal Cords by Tone Exercises. By H. Holbrook Curtis, Ph.B., M.D. New York: D. Appleton & Company. 1896. Pp. 215.

Few specialists, either in this country or abroad, have had better opportunities for studying the subject of voice-building and tone-placing than the

writer of this monograph. Not only has his practice been large, but it has been among the leading singers of the day, and one feels in perusing the book that he is getting the results of years of laborious practice and voice cultivation.

The subjects treated are: The origin of music; the anatomy and physiology of the larynx; respiration; vocal resonators; tone and overtones; the registers of the human voice; tone-placing; voice-building and voice-figures. They are all handled with skill and in a manner to excite and maintain the interest of the reader. Fifty-nine excellent illustrations serve to elucidate the text.

INFANTILE MORTALITY DURING CHILD BIRTH AND ITS PREVENTION. By A. Brothers, B.S., M.D., Visiting Gynecologist to Beth Israel Hospital, New York, etc. William Furness Jenks' Prize Essay of the College of Physicians of Philadelphia. P. Blakiston, Son & Co. 1896. Pp. 179. Price, \$1.50.

The object for which this essay was written is concisely stated as follows: "To make a careful bird's-eye view of the entire subject (Infantile Mortality, etc.) without attempting to give a detailed account of everything, as required in text-books, and to point out the advances made in recent years in the interests of the unborn child previous to labor, during the critical hours of actual labor, and in the earliest period of life succeeding labor." The necessity for a thorough knowledge of the causes of infantile mortality on the part of the obstetrician are apparent when it is remembered that ten per cent. of all children born die before they are one month old.

Incidentally the author thus describes the kind of man the obstetrician of today should be. "He must be a man of sound judgment, conservative as a rule, but capable of showing intense coolness and courage under emergencies. He must be a man of patience, but one who will not sacrifice infantile life by delay. He must be willing to leave the majority of cases to nature, but must not shrink, in case of necessity, from the thoughts of version, forceps, symphyseotomy, or Cæsarean section."

The essay is a most exhaustive one, and we think it would be difficult to name a cause of infantile mortality not here enumerated.

ARCHIVES OF CLINICAL SKIAGRAPHY. By Sydney Rowland, B.A., Cantab., Special Commissioner to *British Medical Journal* for Investigation of the Application of the New Photography to Medicine and Surgery. A Series of Collective Illustrations, with Descriptive Text, illustrating Application of the New Photography to Medicine and Surgery. London: The Rebman Publishing Co. 1896. Vol. I., part i. May, 1896. Price, 4s. net per issue.

These Archives bid fair to occupy a most important and prominent place in medical literature. In the text there is given a most concise and lucid explanation of what the X or Röntgen rays are and how produced, together with the method of their practical application to photography.

The plates are five in number: 1 and 2, a double-page plate of child of three months, showing not only the skeleton, but also shadows of intestines,

heart, and liver; 3, a needle imbedded in the finger; 4 and 5, multiple exostoses; 6, wrist and forearm, from a case of syphilis, indicating the position of a gumma.

The illustrations are each 10 x 12 inches in size, callotypes, and printed on the finest art paper. To preserve the monthly issues, a portfolio can be obtained for 2s.

MEDICAL DIRECTORY OF THE CITY OF NEW YORK.

The Medical Society of the County of New York has in times past placed the whole profession of this vicinity under obligations to it. In New York City it has succeeded in driving out a horde of quacks and has given encouragement to the societies of other cities to do the same. For this it merits much more commendation than it has received. Under the able editorship of Dr. Daniel Lewis it now publishes a medical directory under the above exceedingly misleading title, for, while the physicians of New York lead the list, fully one-half of the book is taken up with the names, addresses, etc., of physicians of Kings County and of the State outside, together with those of the profession in New Jersey and Connecticut. Besides, everything is given that the physician wants to know about medical schools, hospitals, commissions in lunacy, quarantine, with a mass of other information.

By an arrangement made between the editor of the Directory and the JOURNAL, copies can be obtained at the Society Rooms for \$1.00. So far as we have been able to test it, the Directory's list of Brooklyn physicians is as near perfect as can be made.

OBSTETRIC ACCIDENTS, EMERGENCIES, AND OPERATIONS. By L. Ch. Boislinière, A.M., M.D., LL.D., late Emeritus Professor of Obstetrics in the St. Louis Medical College, etc. Properly illustrated. Philadelphia: W. B. Saunders. 1896. Pp. 381. Price, \$2.00 net.

The author of this volume does not intend it either as a treatise on midwifery nor as a manual on obstetrics, but for the use of the practitioner who, when away from home and his library, must rely upon himself. It is well illustrated, many of the illustrations being by Dr. R. L. Dickinson.

A MANUAL OF ANATOMY. By Irving S. Haynes, Ph.B., M.D., Adjunct Professor and Demonstrator of Anatomy in the Medical Department of New York University, etc. With 134 half-tone illustrations and 42 diagrams. Philadelphia: W. B. Saunders. 1896. Price, \$2.50 net.

The leading ideas of this Manual are to elucidate by both text and illustration the relation between the viscera and the surface of the body, and to describe the structures laid bare by dissection in the order in which they are met.

The illustrations are original, and are for the most part from photographs made by the author from his own dissections.

The author and the publisher combined have given the profession a most admirable book. It will be as thoroughly appreciated by the surgeon as by the student.

DIAGNOSIS AND TREATMENT OF DISEASES OF THE RECTUM, ANUS, AND CONTIGUOUS TEXTURES. Designed for Practitioners and Students. By S. Gant, M.D., Professor of Diseases of the Rectum and Anus, University and Woman's Medical Colleges. With two chapters on Cancer and Colotomy, by Herbert William Allingham, F.R.C.S. Eng., Surgeon to the Great Northern Hospital, etc. One vol. royal octavo, 400 pp. Illustrated with 16 full-page chromo-lithographic plates and 115 wood-engravings in the text. The F. A. Davis Co., publishers, 1914 and 1916 Cherry street, Philadelphia; 117 W. Forty-second street, New York; 9 Lakeside Building, Chicago. Extra cloth, \$3.50 net; half-russia, gilt top, \$4.50 net.

As specially new features we note the chapter on "Railroading as an Etiological Factor in Rectal Diseases," and "Auto-Infection from the Intestinal Canal." The author believes that conductors, firemen, brakemen, and engineers are predisposed, by virtue of their occupation, to rectal diseases, and states that he bases this opinion on observations of his own and of others connected with railroads in the capacity of surgeon. Of those who have been running on trains for five or more years, seventy-five per cent. are sufferers at one time or another from rectal or anal diseases, due to irregularities in living, the erect position so continuously assumed, and the irregular and jarring motion of the train.

Taken as a whole, the volume is a very readable one, in which the subjects treated are well handled.

THE NEWER REMEDIES: A Reference Manual for Physicians, Pharmacists, and Students. By Virgil Coblentz, A.M., Ph.D., F.C.S., etc. Second edition, revised and enlarged. New York: D. O. Haynes & Co. 1896. Price, 50 cents.

Physicians generally have received copies of this little book of ninety pages, with the compliments of Messrs. McKesson & Robbins of New York. It will be found very useful, inasmuch as with but few exceptions the author has omitted all substances which are to be found in the dispensatories and standard books of reference.

CLINICAL LECTURES ON DISEASES OF THE NERVOUS SYSTEM. By W. R. Gowers, M.D., F.R.S. Philadelphia: Blakiston, Son & Co. Pp. 279. Price, \$2.00.

This work must not be confounded with the standard treatise of the same author. For the general medical student and even the specialist there is rarely such an advance, correct, and yet agreeable series of essays on subjects neurological as that here presented.

Most admirable is the chapter on "Syphilitic Hemiplegia," with its whole argument based on true mechanical principles and almost equally applicable to various other conditions.

A work so excellent as this merits serious criticism. Its minor faults are:

a scarcity of illustrations (three cuts only), the lack of references, though of course hardly called for in lectures, the want of an index, an occasional slip in expression or proof-reading, a certain paternalism in style and too great a proportion of speculation to fact.

In briefly mentioning the pupillary symptoms of tabes he attributed them to affections of the nerve-nuclei. There is, however, reason to think that reflex immobility is due instead to involvement of the short Meynert's tract (connecting the primary optic center with the pupillary.)

In discussing the infantile causes of epilepsy, he claims (1) that children who suffer from eclamptic convulsions are more prone to epilepsy later; (2) that rachitis is one great factor. Now there is American experience against both these propositions, however attractive they may be. Walton and Carter ("On the Etiology of Epilepsy, with Special Reference to the Connection Between Epilepsy and Infantile Convulsions," *Boston Medical and Surgical Journal*, November 5, 1891), have shown from a study of seventy suitable cases, that the first assumption has little basis.

Against the second is the fact that while negro children are very apt to suffer from rickets, there is no corresponding excess of epilepsy in that race. Even if the facts were as he holds, it is still quite possible that children with an inherent tendency to epilepsy may have also a special tendency to rickets—the descendants of epileptics almost certainly have, in the reviewer's experience.

One other point. He says, p. 248, "The only exception to the common mode of infection (in syphilis) is presented by those who attend labors." Certainly the work of Bulkley, Winfield, and many others, both here and abroad, have amply shown that the extragenital, or, as it is facetiously called, "illegitimate" contraction of syphilis is very far from a variety. And more especially must a neurologist often make out a presumptive diagnosis of old syphilis from any remaining marks or manifestations, even in the entire absence of any history of infection.

However, his teaching as a whole is admirable, and we most heartily recommend this little volume.

WILLIAM BROWNING.

MISCELLANEOUS.

TRAUMATIC BURSITIS.*

BY DR. THOS. H. MANLEY, OF NEW YORK.

Between the broad, flat surfaces of the tendons and muscular structures, which act on the humerus, in situations exposed to great friction and pressure, are lodged several pockets, composed of fibrous envelopes, and lined by flat endothelia. Their number varies, although, as a rule, from seven to eight are quite con-

* Extract from Essay presented on Complicated Shoulder Injuries Before Nat. Assoc'n of Railway Surgeons. St. Louis, Mo., May 5, 1896

stant at the shoulder. Their outline is somewhat flat and oblong, and they are capable of great expansion.

The largest is the subdeltoid, extending under the coraco-acromial vault, and outward, under the deltoid muscle. When this undergoes sudden distention from inflammation after injury, it may advance forward under the muscle, producing an apparent flattening above, very much like a sub-glenoid dislocation of the humerus. This distention of the pouch has not been inaptly described, by Morel Lavellée, as a "traumatic hydrocele of the subcutaneous cellular tissues." (Follin, *Pathologie-Exterm.* p. 756, vol. 7.) Trenillon and Boissompierre (*Arch. de Med.*, 1877) have also described a most distressing affection, following shoulder injury, in the broad sub-scapular bursa, which sometimes extends far down, between the muscle and the costal walls. It produces a fulness forward, into the axillary space, which imparts, on motion of the shoulder, a crackling sensation to the finger. In the minor varieties of the subacute type, bursitis induces severe neuralgic pains, which extend with greatest severity, over the muscular expansion of the particular muscle, or group of muscles involved. Protracted bursitis always induces marked muscular wasting. According to Malgaigne, forcible rupture of a bursa is one of the most prolific sources of peri-arthritis. (Malgaigne—*Path. des Artic.*, Vol. II., p. 312). Bearing in mind, the anatomical situation of these hygromatous enlargements, their relations to the joints, and the tendency of an inflamed bursal envelope, to provoke an exudate into the adjacent muscle or tendon sheaths, thereby inducing a rigid adhesion, it is easy to understand, how joint action may be dis-trained, or a pseudo-ankylosis induced.

A bursitis, in a healthy individual, of itself, is of little consequence, as it tends to early spontaneous resolution; its effects, however, are baneful about fleshy joints, like the shoulders and hip, chiefly because, of the adhesions which they may give rise to; and which, if not early liberated, may lead to organic changes, wasting or contraction of the muscles, with ultimate impairment of joint action; something not altogether unlike the multiple tendo-vaginitis, quite frequently seen after violent sprains of the wrist or ankle.

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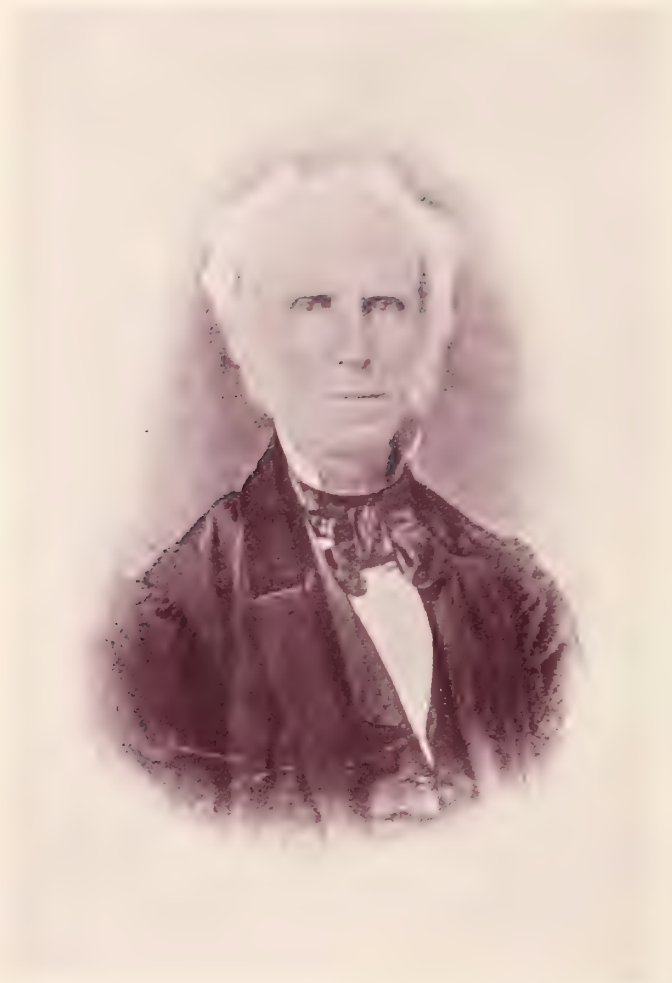
This Association will hold its twenty-fourth annual meeting at Buffalo, September 15th to 18th.



JOHN LLOYD ZABRISKIE.



RICHARD LAWRENCE VAN KLEEK.



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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

ENDOMETRITIS CHRONICA MALIGNANS.

BY J. M. VAN COTT, JR., M.D.

The subject which I shall have the privilege of presenting for your consideration this evening is one that has interested me for all of six years. Recently there have been some publications upon it, especially in Germany, and the matter has seemed to create a good deal of interest there and in other parts of the world. I am not aware myself as to how far it has been discussed in America, but the standard works are rather reticent on the subject and there seems to be some difference of opinion in regard to it. This must be my apology for bringing the matter to your attention.

In order to make clear what I have to say, I will beg your indulgence for a few moments to discuss the normal histology of the endometrium, otherwise it will be impossible to properly conceive the matter at hand.

The mucous membrane of the corpus uteri lines the inner surface of the hollow muscle which forms it. This muscle is cov-

ered externally with a layer of peritoneum. Immediately under this, and so intimately associated with it as to be impossible of separation from it into a distinct coat, lies a thin stratum of non-striated muscle, the direction of whose fibers is, for the most part, longitudinal. This is followed by a layer of abundant connective tissue, in which course the great trophic vessels of the corpus uteri, which send branches to the muscular layer, and the mucous membrane becoming here lost in a capillary network. The circularly coursing vessels have a considerable size—the arteries being particularly prominent by reason of their thick walls.

The muscular stratum which follows the vascular stratum forms nearly the entire thickness of the uterine wall. This is composed, according to some of the text-books, of an outer longitudinal, a middle diagonal, and an inner circular sheath. The fibers of the circular sheath radiate into the under portion of the mucous membrane.

According to more recent investigations it is doubtful if such schematic differentiation of the metrium into coats can be properly made.

Abel holds that the majority of the muscular fibers pursue a circular course, and that everywhere between these fibers others course in various directions.

He further says, that a layer of muscle whose fibres pursue a longitudinal direction is found immediately under the mucous membrane.

The mucosa uteri possesses no submucosa.

The mucous membrane, or endometrium of an adult, between two menstrual periods, forms a gray-white, slightly dull sheet 1 to 2 mm. thick, and of soft consistence. It is composed of a stroma, and its contained vessels and the uterine follicles.

The stroma may be regarded as lymphoid tissue. It is composed of roundish-oval cells in an exceedingly fine network of fibrous connective tissue. Not all of the cells are oval; some being of a spindle shape, and lying partly near the glands, partly near the muscular coat.

The cell outlines are hard to make out because of the relatively large size of the nucleus, the minimum of protoplasm, and the transparency of the latter.

The free surface of the endometrium is covered with a layer of ciliated cylindrical epithelium, whereas the attached portion is not distinctly defined, but gradually fades into the muscular coat: so that in its deeper portions are seen non-striated muscular

fibers, and in the superficial portions of the myometrium are found ingrowths of endometrium.

The surface epithelium, whose cells are somewhat lower, and slightly wider than those of the cervix, is not disposed in a perfectly smooth layer, but reveals certain funnel-shaped depressions which correspond to the openings of the uterine follicles. These latter are tubular glands, which perforate the entire endometrium in either a perpendicular or diagonal direction—in the upper third perpendicular, deeper down, commonly tortuous, sometimes forked.

This explains the fact that in sections made perpendicular to the surface plane are revealed sections of the glands, which in the upper portion are cut parallel to their long axes, and in the deeper part, transverse or on the bias. These appearances lead easily to the impression that pathologic multiplication of the follicles is at hand. It is therefore important to know that the number of follicles which should be seen in the upper portion of the endometrium in a single microscopic field, with medium power, is five to seven, under normal conditions.

The width of the gland lumen, is very various, and can scarcely be stated. It is usually slight, may be scarcely perceptible, and must not be marked, within normal limits. The form is sometimes not regularly cylindrical, but, as in the cervical glands, and because of ingrowth of stroma, some portions of the gland are narrow, others wide. There is not seldom a distinct invagination of the gland, a secondary crown of epithelium being seen within the gland lumen. Here must also be remarked, that often is seen in these sections a crescentic space between the epithelium and gland wall, which is directly resultant upon the fact that the hardening process (alcohol) causes the epithelium to shrink more than the stroma, and hence the separation between the two.

This shrinkage is so regular and the shrunken circle of epithelium so sharply defined as to warrant the conclusion of the presence of a *membrana propria*, which sharply separates the epithelium from the stroma.

This *membrana propria* possesses an endothelial-like covering.

These crescentic spaces are not to be confounded with those which separate the gland walls from the stroma, and are sections through capillary-vessels, as may be readily seen by means of a high power.

Of the vascular supply in the endometrium it may be re-

marked: The veins and arteries in the metrium anastomose more and more freely as they approach the endometrium, into which they finally pass as an intimate capillary network, which surrounds the glands, and fills the stroma. Only in the deepest portion of the endometrium are very small arterioles and venules to be seen, the rest of the membrane being supplied simply with capillaries. It is claimed that the "venous capillaries" are in excess of the "arterioles" to a marked degree.

It is difficult to see the capillaries in unjected specimens: they often appear as nothing but hair fiber openings, which make the impression that a single cell has fallen out of the stroma, and the vascular nature of the opening is only rendered certain by use of a high power, and the demonstration of endothelium, in very thin sections.

Aside from blood-vessels, the endometrium possesses a well-developed lymphatic system, the histology of which has never been conclusively worked out. It is in general so, that the entire endometrium, from portio to fundus, is traversed by a dense lymphatic network: whose vessels become of very minute caliber, course in all conceivable directions, and freely anastomose. Just how the finer branches appear, whether they possess true walls or not (which recent investigations render probable), or whether they are simply crevices in the stroma, and whether they resemble in structure the blood-capillaries, or whether they possess valves, or form dilatations or sinuses: all these are questions which remain unanswered, whose decision, however, is of highest significance for both normal as well as **pathological anatomy**.

The normal data concerning the endometrium have been thus minutely discussed, because of the impossibility of studying intelligently certain pathologic conditions to be discussed presently, without first refreshing memory on these points. In recapitulation it must be readily seen that the uterus is just as all other organs, constructed upon the general basis of parenchyma, stroma, vessels, and nerves, and that logically, therefore, it is governed by the same general laws of pathology as the other organs and tissues of the body.

And the same may be just as exactly stated of any one of its separate parts: so that consideration of the endometrium, from a pathologic standpoint, becomes, for the most part, a relatively simple procedure.

Pathological conditions of the endometrium must be classed under two general heads:

1. Correlation.
2. Coalescence.

The former concerns those changes which occur in the form and relation to each other of the component elements of the endometrium; the latter those changes whereby the part has failed of complete development during intrauterine gestation, being fused together or with other tissues.

That lesion which forms the subject proper of this paper is one of correlation.

In all pathology there is no more interesting or practically important study than that of the changes which occur in the relations of the ultimate elements of the endometrium.

This is true not only because of the relatively very high functional endowment and activity of the part itself; but also because of the widespread reflex influences it exerts. It is no part of the pathologist to review these various reflex influences with their results; but they come properly thus briefly under notice because they help to emphasize the importance of knowing not only the nature of the normal histology of the endometrium but also its pathologic histology.

Correlation is a term which embraces two principal conditions in pathology:

1. Development in excess—Hyperplasia.
2. Regressive changes—Atrophy.

These two conditions are often associated in such a manner that one portion of a complex tissue may be the seat of progressive changes which occur either at the expense of other portions of the same tissue, thus producing atrophy of its elements, or synchronously with primary atrophy.

Hyperplastic changes in the endometrium frequently originate as a result of primary inflammatory changes; indeed, the statement of Abel expresses a generally conceded opinion that "it is not always easy—sometimes even impossible—to draw the boundary line between inflammations and new growths in the endometrium." . . . "With the complexity of the processes, the various conditions often merge into each other."

The importance of this fact can scarcely be overestimated for practical purposes, as will be presently shown; for it seems probable that what may have originated as a simple inflammation may ultimately assume all the form and fury of malignancy, and eventually destroy even life itself.

True hyperplasiæ endometrii, which have lost the character-

istics of inflammation, result in multiplication of the gland elements, or the stroma, or both together, in which latter case the lesion is either a total diffuse hyperplasia, or circumscribed diffuse hyperplasia—polypus.

When the glands alone are the seat of the hyperplastic process the stroma often almost totally disappears, giving to the mass an appearance which microscopically resembles closely those new formations, which must be regarded as true neoplasms. Indeed these conditions are closely allied to the neoplasms, and require for their differential diagnosis the utmost care in the preparation of material and the consideration of every detail of structure in the given specimen.

It is easy to fall into error in the estimation of the true nature of these changes; and of course it is equally as grave to make the mistake of *failing* to find malignancy where it does exist, as to find it where it does not exist.

If there be any difference in degree between the two it has always seemed to me that, granted a modern thoroughly aseptic operation, it were the lesser of two evils to remove a uterus in which simple hyperplasia glandularum existed, than to leave unoperated a uterus in which were the elements of malignancy. For, as has already been stated, lesions primarily purely inflammatory in their nature may ultimately become malignant and go unrecognized until too late for radical and successful operation, while a marked lesion of the endometrium must necessarily tend to render the uterus sterile, or unfit for the proper growth of the ovum. The question, therefore, is; assuming the element of doubt as to whether a uterus can functionate because of hyperplastic changes in the endometrium—will the unpleasant phenomena which make their appearance after hysterectomy offset the frightful suffering attendant upon inoperable cases of malignant growths in utero? Upon the subject of diagnosis in these cases Professor Orth, in his incomparable work on general pathology, says:

“The weighty question for practice, whether a differential diagnosis between benign and malignant growths can be made from curettings or small pieces cut out (from the uterine cavity), has been lately (1893) under lively discussion by the gynecologists, especially.

“It is self-evident that in investigating such small masses, the findings are only of value for the area covered by them, and by no means negative the presence elsewhere in utero, of a malign-

nant growth. The larger the number of masses examined, and the more uniform the findings in them, the more certain the conclusions regarding the whole uterus.

“Regularly formed and situated glands, with a tunica propria, and round or spindle-celled stroma, with still some ciliated epithelia, give ground for an absolute diagnosis of simple hyperplasia glandularum; while the presence of irregular alveoli, filled with epithelia or of a network of epithelial bands, and perhaps, pearls, proves a carcinomatous neoplasm; but also the finding of glands thickly settled, particularly when they lack a tunica propria and longitudinal muscular fibers, is already sufficient, in my opinion, for the diagnosis of a malignant growth indicating total extirpation, while general hyperplasia of typical glands in a typical stroma, or tortuous glands, dilatation, formation of papillæ, etc., in the cavity, and accumulation of epithelia in the gland, form no certain ground for the diagnosis of malignant growth.” Orth, p. 483.

This expression of opinion by Orth is fully indorsed by Abel in his very able monograph before quoted, and taking all the facts into consideration, would seem perfectly logical, and full of pith for further discussion.

There seems to be general agreement, by all of the best writers, that originally harmless glandular hyperplasiae may retrograde into more lawless growths, *i. e.*, adenomata. As Orth says, *vide supra*, so also says Abel, regarding the points in difference between simple glandular hyperplasia and adenoma: “In the adenomata are really no longer glands, but epithelial pipes. These preserve in the beginning a canal, but grow in atypic forms having no resemblance with the uterine glands, possess no *membrana propria*, and lie one under the other.” “I must remark as particularly characteristic, that in adenoma there are no typical ciliated cylindrical epithelia. The epithelial tubes are formed of densely settled cubical cells, with egg-like rounding off. The otherwise small nucleus, which lies on the base, is materially enlarged at the expense of the protoplasm. The cells lie irregularly under or over each other without definite separation.” And again, Ziegler says: “The microscopic examination of small portions (curettings) can afford conclusions as to the neoplasm, since the tissue of an adenoma resembles a gland structure, but never fully reproduces the normal gland type of the organ.”

In this connection permit me to digress for a moment

from the general theme to make a few remarks about the method of obtaining material from the cavity of the uterus for diagnostic purposes. It is of course highly important that curettings should come from the site of the trouble if possible, and I want to heartily endorse the proposed method of Abel, who suggests that it should be routine practice to dilate the os sufficiently to admit the sterilized finger, and that the endometrium should be subjected to most careful digital examination in order to detect local areas which would be calculated to better show the facts, than a scraping at random.

This method is quite consistent with the fact already pointed out, that at some circumscribed area in the endometrium, this malignant form of adenoma may be implanted on a chronic diffuse endometritis. The sense of touch in a skilled finger ought to be competent to detect such areas, thus aiding both the clinical and pathological investigation.

Having pointed out the fact that glandular hyperplasia may be succeeded by adenoma, and that both may have been preceded by inflammation, it is now competent to review the facts regarding endometritis chronica malignans.

Julius Schwalbe, in his "Elements of Special Pathology and Therapeutics," says: "A particular form of malignant neoplasm is adenoma malignum, the gland carcinoma of the endometrium. This originates in an excessive growth of the glands of the endometrium which leads to complete disappearance of the interstitial tissue, and ultimately to ever-progressive gland formation at the expense of the muscular tissue.

"While metastases in this form of malignant growth never occur, their malignancy is nevertheless demonstrated by the fact that, after removal of the degenerate endometrium, with the sharp curette, it renews its growth, and this renewal of growth is always at the expense of the muscular wall of the uterus; and clinically cachexia and death result in consequence of increased secretion brought about by the multiplication of glands, and hemorrhage occasioned by constant hyperemia of atypically developed capillaries.

"The diagnosis is constituted by microscopic examinations of curettings.

"The total extirpation of the uterus is indicated when in the further course of time its recurrent nature, and adenoma are determined." Schwalbe (p. 524-5).

There are several facts regarding this condition which are particular to it:

1. *Intra vitam* there is no opportunity of seeing the lesion by direct inspection, as it is confined within the corpus.
2. It may be very local, or very general in extent.
3. Its growth is continuous and never metastatic; therefore, it is positively susceptible of radical cure as long as it remains within the confines of the corpus uteri.

Also of interest are the hyper-secretion and hemorrhage; both of which produce often most profound systemic effects; so profound indeed as to destroy life at times, and at least undermine the constitution and lay the foundation for intercurrent disease.

I have examined a number of these uteri after operation, and coincidentally at autopsies. The general findings are somewhat as follows:

The organ is regularly enlarged, somewhat globular, and a trifle soft in consistence.

On gross section the cut surface is smooth, and shows the body of the uterus to be considerably thickened. The endometrium is from one-fourth to one-half inch thick, soft and velvety, hyperemic, and in numerous areas hemorrhagic. The organ generally is somewhat hyperemic.

In the cavity of the body is a secretion of glairy mucus which sometimes contains blood.

Microtome sections show the conditions described above.

There are several practical questions connected with this condition which I would like to bring up. But before stating them, I beg to express my sense of appreciation of the privilege, Mr. President, accorded me of bringing this subject up before your Society, from whose membership must come the answers to my questions, *ex cathedra*. I have purposely refrained from discussing clinical data beyond a few general statements of fact which, while within the scope of personal experience, are nevertheless quoted from some of the ablest writers, teachers, and clinicians in gynecology and pathology.

It would be presumptuous to give clinical histories to such present; in fact my own theory has always been that neither pure pathology, nor simple clinical work, is competent alone in the majority of those conditions of disease where special methods in diagnosis are of value. The pathologist is just as much entitled to the clinical facts of a case, as the clinician is entitled to the verdict of the pathologist based on pure morphology. On any other basis there is mutual robbery.

1. Is this a common condition in the United States?
2. What is the average age of its occurrence?
3. What are the clinical conditions which lead to the advice of hysterectomy in these cases?
4. How far is it competent to say that chronic hyperplasiæ of the endometrium will cause sterility.

It is, of course, a very responsible thing to either suggest or perform an operation for hysterectomy; and such procedure is only warrantable after the most exact investigation of the given case; and this investigation must be made from the dual standpoint of pathological anatomy and clinical experience.

Morphologically a scraping in these cases may present sufficient evidence to warrant hysterectomy, while clinically the facts at hand may not be sufficient to warrant it.

In any event, my own belief is: that where the microscope reveals adenomatous tissue, the case is one to be regarded with great suspicion; and where recurrence of hemorrhage is repeated after thorough curettage, the diagnosis of end. chron. malig. is fairly made.

DISCUSSION.

Dr. Geo. McNaughton: I wish I could discuss this paper, Mr. President, but I shall not attempt to. There are only two practical points that occur to me. Dr. Van Cott spoke of the necessity of the pathologist knowing the clinical history, or the desirability of his knowing it. I think that when scrapings are sent to the pathologist for examination, it would be pretty fair for the pathologist to assume that there were symptoms which led to that operation, either hemorrhage, discharge, or something of that sort, else it would not be done; and that is about the only history that the clinician has, so that the pathologist can assume that that much has existed anyhow.

As regards getting the specimens for examination, I am inclined to believe that there would be a great many cases where it is impossible to introduce the finger and make an examination of the endometrium in the way which was suggested. I know many times it is impossible to get enough material to satisfy the one who makes the operation, to say nothing about the pathologist. Sometimes there are symptoms in the way of hemorrhage which seem to be altogether out of proportion to the findings, and sometimes we have reports from the pathologist showing findings of a grave nature, and an extreme operation has been suggested and refused, and the patient has done very well for several years. I presume

that the pathologist would then admit an error the same as the clinician.

I saw a uterus removed—not in this city—a couple of years ago, and the specimen was presented to two members of this Society for examination, neither of whom could discover the slightest change in that uterus on gross examination, yet this operator said that a diagnosis of malignant growth had been made by the pathologist. It would seem almost unfair to accept alone the findings of the pathologist if that occurs very often, because that had every appearance of being a perfectly healthy uterus.

Dr. Ernest Palmer: Mr. President, I want to thank Dr. Vain Cott for presenting this interesting paper.

For the present, it strikes me that the subject must remain in the hands of the pathologist for more extended investigation before reaching those of the clinician or gynecological surgeon. Further observations may give results which will warrant us taking radical means to remove the diseased organ by hysterectomy upon the evidence obtained by curetting. Nothing has been said as to the period of uterine life or activity at which this condition is found, the knowledge of which would have a practical bearing upon proposed operative procedure. Personally, I don't recall having ever seen a case I could consider chronic endometritis maligna, unless associated with early malignant disease of the cervix or fundus uteri.

I hope that future investigation of the subject will throw some light upon those conditions of profuse hemorrhage from apparently slight structural changes in the endometrium.

Dr. J. C. MacEvitt: The subject of this evening's paper gives me a fitting opportunity of narrating a case that came under my observation a few years ago, in which the corporeal endometrium seemed to be one of the chief factors in producing first a menorrhagia, and then a metrorrhagia, basing my opinion upon the partial relief afforded by local treatment. With brevity I will relate the salient features of the case as I now recall them. The patient's lot in life was cast among the poorest of the poor. Bad hygienic and sanitary environments interfered with normal development. Working in a factory further accentuated repression of normal growth. At the age of fourteen she menstruated for the first time, the flow lasting about two days, free from pain and about normal in quantity. At each recurrent period the flow gradually increased in amount, without any known cause, until it became necessary for her to remain in bed during the discharge to lessen

its severity. At about her nineteenth year she became so debilitated from excessive but irregular loss of blood that she was compelled to give up her employment. At this period, for the first time, she placed herself under the care of a doctor, who, after a six months' trial of various remedial agents with only aggravation of the trouble, advised, with impenetrable wisdom, marriage: telling the poor girl that impregnation would effect a cure. We meet strange occurrences in our daily work! It is a fact, that guided by the dictum of the medical adviser, and supposedly acting in a chivalrous manner for the safety of the girl's health, a distant relative, a cousin, married her. Two weeks after this marriage I was called to see the case for the first time. I found her lying upon the bed, almost completely exsanguinated, with a barely perceptible pulse. The bed-coverings presented the appearance usually seen in *post-partum* hemorrhages. Within a space of three years I was called upon to minister to her needs for a like cause and condition at least a dozen times. At times, when the flow was not so excessive, by following instructions, they would avoid sending for me and would only send when they were in fear of the patient's death. I know one is prone to exaggerate and elaborate upon supposed extraordinary cases, the like of which have never been met with before, but these repeated, and violent and frightful hemorrhages were certainly real to me in fact.

The cause of these hemorrhages you mentally ask. Owing to her poorly nourished condition, I found little trouble in marking out the physical conformations of the uterus and its appendages by bimanual manipulation without finding anything abnormal. I could not find within the uterine cavity, or detect within its walls any neoplasms. I did find a condition of the endometrium never before experienced. The point of contact of a sound within the uterine cavity, when moved to and fro, conveyed to the touch the sensation that it was passing over a moist, glossy, velvety surface with a tense and gritty base. A distinguished gynecologist saw the case in the hospital with me, but confessed his inability to make out any local cause for the hemorrhages. Occasionally during the interim of her uterine flow she would have attacks of epistaxis, not very violent. Otherwise there was no family or personal history of hemophilia.

Treatment of her general condition was directed with what intelligence I could command. Locally electricity, astringents, and hemostatics were used in every manner that promised relief.

A thorough curettage, with a large sharp instrument, followed by application of compound iodine paste, with complete rest, would bring about a condition of apparent improvement, but which really seemed to give her blood for a more violent hemorrhage upon the next recurrence. The material removed by the curette was not examined under the microscope, but to the eye there was no evidence of fungoid degeneration usually seen. She died in her twenty-third year of acute tuberculosis. No autopsy. Would not hysterectomy have been justifiable at an earlier stage of this case. I so advised, but could not gain the consent of the patient.

Dr. Jewett: I am glad to add my thanks to the doctor, Mr. President, for a scholarly and valuable paper. It would be presumptuous for me to attempt to discuss it. One or two points I would be glad to hear the doctor speak of in closing.

One is the suggestion of Johnstone that the endometrium is a glandular organ like the tonsils, the thyroid, the lymph glands, etc.

Another relates to the histological diagnosis. It would be a great satisfaction in doubtful cases if we could turn with absolute confidence to the microscope. But we sometimes get directly opposite opinions on the same specimen from different pathologists. Is this because of any inherent difficulty in deciding the question from the histological standpoint?

Dr. Van Cott: Mr. President, in reply to the first gentleman who made the point on the question of the clinical history in such cases. There are one or two things, it seems to me, that a pathologist should get in a case, one of which is the question of age. I may preface my remarks on this subject by saying that, personally I think the whole subject is still *sub judice*, for the reason that I do not think the thing has been sufficiently gone over by pathologists and gynecologists in combination to really unravel it. It may require years to establish a thoroughly scientific basis for procedure; and that can only be done by having cases reported on by the pathologist and subsequently followed up by the gynecologist. I know how difficult this is, because cases of every kind come to our offices, return once or twice, and then float away, and it is impossible to get the further history. I have one case in mind where the patient died for want of an operation of this kind. The case was primarily my own; operation was refused and the patient died of what I believed to have been a condition something similar to this. Now the age of the patient, as

far as my work has gone, seems to me to be important. Where hemorrhage occurs after the menopause it is a very different thing from hemorrhage occurring prior to the menopause. In a young woman a flow of considerable amount would be regarded with a less degree of concern than in a patient who had ceased to menstruate. I think so important a point the pathologist should know, as it would modify his judgment in the expression of his opinion.

The second gentleman who has spoken has already touched upon the necessity for consecutive work. If this brief paper shall have the effect of urging the members of this Society to do consecutive work on the subject, and they should some day have the proud honor of really establishing the fact, it would more than warrant my presenting it.

Dr. MacEvitt's case serves as an excellent illustration of my point. His patient died from tuberculosis. I believe that the tuberculosis never originated in the corpus uteri; but was superinduced on a condition which had undermined the body of his patient, so as to render her susceptible to tuberculosis. She might never have had tuberculosis had the uterus been removed before the draining of blood had reduced her constitution to such a point as to yield a *locus minoris resistentiae* in the lung itself. Here is a case where blood is constantly flowing and flowing rapidly. Curettage failed to produce the result of stopping the hemorrhage; this thing goes on, and finally the patient succumbs to tuberculosis because she has been robbed of her normal resistance.

As to the points made by the last gentleman who spoke, assuming that the endometrium be a mucous membrane, I still think it competent to regard it as a glandular organ. I am at loss to understand in what way I repudiated this idea though I must have done so, yet I think the mucous membrane is an organ in that it is definitely supplied with all the parts which are functionally active in an organ, and it is a matter of small difference whether you call the endometrium a mucous membrane or an organ. Certainly it is organic in its structure and organic in its functional activity.

As to the difference of opinion among pathologists, nobody is exactly similar in ideas to another person. I have even known two gynecologists to differ in opinion; but the answer to the point may be made in this way: It frequently happens that not all portions of the same specimen in the same uterus will show the same thing. I tried to bring this out in my paper. Abel has written a

very valuable monograph on the entire subject of microscopical diagnosis in practical gynecology. He says: "There may be a malignant adenoma in the uterus which has sprung from the endometrium: curettage may be made immediately over this adenoma, and only a portion of hyperplastic endometrium be removed." Now you can see perfectly clearly how it will be that in the case of the examination of this curetting nothing but a hyperplastic endometrium is found. "A second curettage will be made and there will be removed from this area a portion of the true adenoma, and then one has all the material at hand which is competent to produce a diagnosis of malignant growth." My own belief, therefore, is simply this: that while you may remove with the knife a portion of the inner cavity of the uterus, and you may divide this in two, no man can say that both of these two portions of the same uterus are exactly the same material. So that in the examination of masses from the cavity of the uterus my own judgment is: that the extremest caution has to be exercised in rendering a diagnosis, and the opinion must be based upon examination of the entire mass. I do believe, however, and I propose to stick to the point, that it is the pathologist's business ultimately to render his own personal verdict of the case, based on the morphology at hand. It is because of what he sees in the way of form and structure that he must render his opinion, and when his opinion goes to the gynecologist it must be modified by the latter's own judgment and the clinical facts which he has at hand. It is an impossible thing always to determine positively the presence or absence of malignancy from a microscopic examination. My original belief was, when I first attempted to do so, that it was quite possible, and I felt almost insulted if anyone said it was not possible: but I do believe that in this class of cases it is only by combined opinion—one tempered by the other—that the best and most certain results can be gotten from examinations of this kind. That does not discredit the pathologist's examination, but only emphasizes the necessity of a combined effort on the part of the clinician and the microscopist to really arrive at the facts in the case.

REMARKS ON THE NEEDS OF MINOR GYNECOLOGY.

BY JOHN BYRNE, M.D., LL.D.

Read before the Brooklyn Gynecological Society.

At a meeting of this Society, soon after its organization, I expressed the hope that more time and attention might be given to the ordinary and more common diseases of women than had been accorded to them up to that period, by associations like ours.

I believed then, as I do now, and with increasing conviction, that what the majority of our associates most desire, and what might be turned to profitable account by our professional brethren generally, would not be the details of a complicated abdominal section, or a vaginal hysterectomy, but the discussion of such topics as might enable them, as well as the general practitioner, to become familiar with, to diagnose, and to treat intelligently and successfully, such cases as we meet with daily in our office and private practice generally.

For the last fifteen years we have witnessed one gynecological society after another spring into existence throughout the length and breadth of this great country, as well as abroad, and while the records of their work mark an era of progress unprecedented in the history of this special department, so far as abdominal and pelvic surgery is concerned, minor ailments, so often the etiological precursors of conditions both grave and dangerous, seem to merit but little consideration.

Indeed, there is no exaggeration in surmising that, at the present day, the number of societies engaged in the study of the diseases of women, far exceed that of all the distinctly recognized gynecologists of forty years ago. And yet, with all this display of care for the physical well-being of women, but little interest seems to be manifested in their sexual infirmities unless such as demand or directly lead to some heroic exploit in abdominal or pelvic surgery. As for the cases which we meet with in everyday practice, and which constitute, perhaps, ninety per cent. of all the patients who seek advice and treatment at our residence, nay, the very cases on which many an enviable reputation has been founded, and the successful management of which seldom

fails to be appreciated, are rarely discussed or considered. In a word, if we are to judge by the reported proceedings of these societies, it would seem as if minor gynecology, by which I mean the less grave maladies of women, had become either obsolete or too old-fashioned to merit attention. And what is the natural result of all this? Those only whose professional labors are mainly if not wholly confined to the treatment of diseases of women, and who are daily brought in contact with a large number of these cases, can fully realize how numerous are the examples of slipshod, meaningless, and often mischievous treatment, to say nothing of grave errors in diagnosis, which are to be met with almost daily. Such a state of things, I need not say, could hardly exist to the same extent, in any other department of medicine or surgery than ours, and for obvious reasons.

No living woman, not even the new one, however transformed, can ever hope to attain any degree of proficiency in the art of auto-diagnosis, so far as her sexual organs are concerned; and more's the pity, say I. Here, however, I find myself, almost unconsciously touching on a very delicate phase of the subject, so I shall merely remark that, under existing circumstances, and since a large proportion of all ordinary uterine diseases, especially in their primary stages, are apt to, and, as a matter of fact, do fall into the hands of the general practitioner, it seems to me that the latter has certain claims on this and all similar societies which cannot, and ought not to be ignored. The general practitioner eagerly scans the proceedings of societies like ours, not with a view to study, however he may admire, the glowing descriptions of operative work which he knows he will never be called upon to perform, but with the hope of finding something of practical value. Something which might enable him to show that the confidence of his patients has not been misplaced or his skill overrated. Lest the comprehensive title by which these hurried and ill-digested remarks have been announced might mislead as to their scope and purpose, I should here state that my sole object is to call the attention of this Society to the importance of devoting some little time at each of our meetings to the discussion of the more common diseases of women, even to the exclusion of every proceeding worthy the name of operation. In a word, such cases mainly, if not exclusively, as can be properly treated at intervals in our office; as for example, displacements, utero-vaginal inflammation, hyperplastic and cystic conditions of the cervix, endo-cervicitis, endo-, para-, and peri-metritis subinvolu-

tion, inflammation and infiltrations of the pelvic connective tissue, whether of tubal or other origin, and other pathological conditions which need not here be enumerated. First, and above all, let us discuss and carefully weigh the various methods of examination, in order that we may be the better prepared to reach a correct diagnosis and thereby spare our patients much bodily tribulation to say nothing of financial depletion. Let us carefully consider and discuss from time to time the etiological bearing of constitutional dyscrasias in the production and perpetuation of many of the sexual diseases of women. Let us make known to the physician in general practice that there are other and better means of treating an anemic, dyspeptic, and habitually constipated woman, who happens to have an eroded and congested cervix floating and bumping in mucus, with all the pain, aches, and general wretchedness that such a condition implies, than by swabbing these parts perhaps two or three times a week with some useless or ill-smelling styptic.

I might remark here that it is quite a common occurrence with me, and I presume with others, to meet with cases like that to which I have alluded, patients who are constitutionally depraved and suffering, of course, from uterine, as well as many other troubles in consequence thereof. It is not an uncommon thing for me to dismiss those patients for a month at least, during which time they are put under the proper constitutional treatment. It very often happens that when patients of this class come back for local treatment, I find little or no local treatment called for. I simply refer to this as showing the absurdity of topical applications while the general condition, out of which the local malady originates primarily and urgently demands attention.

In this matter we may contribute much toward freeing our specialty from the charge of perfunctory routineism, stemming the tidal wave of extreme surgical tendencies, and, to some extent, aid further the bold and able efforts of our distinguished colleague, Dr. Skene, in claiming, nay demanding, for medical gynecology, as the groundwork of scientific practice, some adequate share of recognition.

The use and abuse of pessaries also should receive special consideration, and, in connection with this subject, I would offer a suggestion which, I think, hardly admits of discussion, namely, that this Society, as a body claiming the right to teach in such matters, protest against the manufacture of devices for retrover-

sion of the uterus which, when used, and they are so employed every day, cannot but render conditions, which might have been remediable, absolutely incurable.

I refer to the general run of pessaries to be found in instrument makers' stores, and which I feel called upon to remove too often. Here is a sample of a retroversion pessary which you will find in every store. Now that instrument is devised and used under the belief that the pessary directly supports the uterus. There never was anything more absurd in the world. A retroversion pessary should not impinge on any part of the uterine body, and, least of all, on that point opposite the os internum, where these viciously-shaped devices, by direct pressure, produce atrophy, and, in this manner, convert a simple retro-displacement into one of incurable flexion. In short, a retroversion pessary, however properly shaped and adjusted, does not, by any means, wholly restore the displaced organ, but merely *relieves* the strain by elevating the posterior vaginal wall and cul-de-sac, thus drawing the cervix backward, and swinging the entire uterus in an upward and forward direction.

A side view of the pessary which I now hold in my hand gives a correct idea of the posterior curve of a suitable device for retroversion.

I feel that I owe my colleagues of this Society an apology for this hurried reference to our shortcomings regarding our duty to the general and the junior practitioner as well as to the community at large.

DISCUSSION.

Dr. A. J. C. Skene : Ever since I was a school-boy, Mr. President, I have heard people say that the approbation of Sir Hubert Stanley was praise indeed. Now, I must plead guilty of not knowing who Sir Hubert Stanley was, or anything about his praise. But I do know Dr. Byrne and I am satisfied, sir, to have his approbation and I feel very grateful to him for his reference to my work.

I was pained when the doctor said he had not been feeling well, and he said that he had not felt like work, and before he got over half of his paper it occurred to me that if he prepared this when he did not feel like work, the Lord help some of us when he did feel well enough to work. Because this paper was certainly the production of a brain that was not by any means off duty, if I am any judge in such matters, and I think I am.

Of course, I endorse most heartily all that Dr. Byrne has said with reference to the tendency of the age, and that is to become altogether too circumscribed in our pursuits and practice. We were all very glad, I have no doubt, when medicine began to divide itself into special departments, both in teaching and in practice, and I am quite satisfied that the result of that has been a great improvement, that thereby much progress and advancement have been made, but we seem, of late years, to have got to a point where we have become altogether too circumscribed. Specialists seem to be becoming one-idea men. I notice some of the oculists confine their work to ocular tenotomy, and adapting glasses or some other item of practice to the neglect of all others. General practitioners of medicine and surgery, in these days, are some times contented to occupy a small corner of the whole field, and try to believe that that is all right. I suppose that gynecologists are, perhaps, worse than either. Many of them insist that there is nothing medical in gynecology. It is all surgical and major surgery at that. Perhaps it is the reaction from the beneficial effects of specialization in medicine and surgery.

Everything that Dr. Byrne says about the neglecting to treat patients generally, while they are suffering from some local trouble, I think, ought to be repeated every night as a sort of introductory to our discussions, and I think it would be a good sort of thing to add to one's morning prayers, that we might be delivered from concentrating our whole attention on the pelvis and the surgery thereof.

With reference to the use of pessaries—and that is only one thing in which we are apt to go astray in minor gynecology—I have certainly had some experience, though limited no doubt, compared to that of Dr. Byrne. There was a time when I introduced very many pessaries, but now I think I divide my time about evenly between removing those that have been introduced, and using others that give relief. It is an unfortunate thing that very few have had practice and patience enough to master the mechanism of displacements and the mechanical appliances for their relief. I have no doubt there are hundreds of men who do laparotomy, and all other surgical operations in the domain of gynecology who could not fit a pessary to correct a displacement any more than they could make boots to fit themselves. The paper of the doctor, to me certainly, is of very great value—most valuable because of its suggestive character, and coming from one of his major experience. It comes as a sort of warning

to broaden our views and broaden our work, and I am sure that it must be beneficial.

Further, if you will pardon me for referring back to the doctor's remarks on hysterectomy, I wish to say that these remarks were to me of the greatest possible aid and encouragement. Within the last few years the rage for vaginal hysterectomy has run wild, it seems to me. Of course, if I am mistaken in this, I will be promptly corrected. I hear every day now of their doing all sorts of, to me, impossible things by the vaginal operation: removing large fibromata of the uterus—I have forgotten the limit, but I think a tumor extending to the umbilicus can be removed by some through the vagina—and it seems to me to be preposterous. Vaginal hysterectomy in cases precisely like the one Dr. Palmer has related is not to be compared with the abdominal method—there are many who prefer to operate through the vagina.

There is certainly far more danger, far more mechanical difficulty, and why it is urged so strongly by some, I do not understand. It is one of those things that I cannot comprehend.

Until I heard Dr. Byrne's remarks I began to doubt whether I was not falling behind in the race, whether I was not, after all, the one at fault, and that, perhaps, it would be better to undertake some of these cases by the vaginal operation rather than by the abdominal. But when I heard what he had to say, it accorded so well with my own views and experience, that I believe I am right after all. I know I am when I have the sanction of one of Dr. Byrne's experience. And I know that Dr. Palmer believes that the large majority of these cases can only be treated with facility and safety by the abdominal method.

I am wandering from the subject, Mr. President, but I wish you would let me make one remark, which I forgot to make, in connection with Dr. Palmer's case of abdominal hysterectomy. He stated how well his patient got along for two weeks and then she developed a pleurisy. Two weeks ago last Tuesday I had a case with a similar experience. She had had a pelvic peritonitis two years ago. There was a degenerate ovary and old salpingitis on one side, and on the other side was a parovarian cyst about the size of a large fist, all of this being imbedded in the strongest adhesions one could well imagine. Before getting at the cyst I had to separate by ligating adhesions a section of eight or ten inches of intestines. It was firmly adherent, not to the tumor, but to the exudate that covered the tumor. Then I suc-

ceeded in enucleating it and getting the pelvis quite clean, and the patient did perfectly well until yesterday when she developed pleurisy of the left side. We all know that patients are liable to get inflammation of the parotid gland after abdominal section, and pneumonia after etherization. But these are the first cases that I have heard of that had pleurisy after recovery was about completed.

Dr. Wm. Maddren : I would like to add my word of thanks to Dr. Byrne, for his paper. I appreciate and fully approve of his recommendation and action.

Dr. L. Grant Baldwin : I simply want to add my thanks to Dr. Byrne for his paper. At the same time, I think that the general remarks—that the tenor of them—have been that pessaries, as a general thing, are of no use. That might be the impression given to readers of the discussion. I believe that pessaries are of most admirable service when properly used, but that no one shape of pessary will suit every case. I have seen, I think, a good many cases where pessaries bent as much as the one Dr. Byrne shows and condemns, have been the proper ones to keep the uterus in position. Everyone must be fitted according to the patient, almost the same as a locksmith fits a key to a lock. No two vaginas are alike, and surely any one form of pessary will not be suitable for any patient. Each patient must be fitted.

I might mention that day before yesterday I had occasion to take out a pessary which had been put in place by a doctor who has been dead over two years—put in how long before he died, I don't know. For a year and a half she suffered a great deal, simply dreading to go to some other doctor. After soaking this pessary for forty-eight hours, you had to scrape it to tell whether it was hard rubber, metal, or what not, so completely encrusted was it. And the vagina was correspondingly inflamed.

Dr. W. B. Chase : It is refreshing once in a while, and particularly so when our senior members take the position which Dr. Byrne has taken to-night, to break away from the old paths. I believe the sentiment that he has expressed to-night, that minor gynecology, to a very considerable degree, has fallen into disrepute, is true. I am not, however, quite ready to believe that that is true of the general profession, but that with some specialists it has been relegated to a position entirely out of proportion to the one which it should occupy.

Now, regarding this one question of mechanical treatment in cases of uterine displacement. It is well to recollect that there

is something of a woman besides uterus and ovaries, that like the rest of the human race, she has other functions to perform and other organs which are liable to become diseased, and to assume that every woman out of health is suffering from some form of uterine or ovarian disease, is to presume that a condition of things is present which does not really exist. As related to this one question of the use of pessaries, I do not know what the experience of the general profession is, but as regards myself, I have found that I use them far less frequently than formerly. It is the exception—it is the rare exception, that I find many cases of displacement of the uterus which cannot be remedied by other methods than that of mechanical support. The reminder we have had from Dr. Byrne, and the larger and fuller instructions which Dr. Skene gives us in his book on medical gynecology, I think will enable some of us, who have had less experience, to strike a happy medium in our practice and remember that it is not alone the heroic work which counts the most.

Dr. Palmer: I want to personally thank Dr. Byrne for bringing up the subject of minor gynecology this evening, as it places in strong contrast the major gynecology which I have illustrated by the specimens presented this evening. That we hear more of surgical gynecology in our society meetings can be explained by the fact that minor gynecology is fast becoming a part of general practice, leaving the operative surgical work for the specialist.

Upon the subject of pessaries, and their abuses, I am fully in accord with Dr. Byrne, having years ago accepted his ideas and practice in their use.

Dr. Byrne: I have nothing to add to what I have already stated. My very brief and incomplete résumé of reflections has been more suggestive than otherwise, and one of my strongest motives for presenting my views in this shape has just been the fact to which Dr. Palmer has alluded. So long as every physician who obtains a license to practise his profession is to be considered a gynecologist, and so long as the physician's office is never quite furnished without a gynecological table, just so long will the great majority of the commoner ailments of women drift into the hands of the general practitioner.

Now, that being the case, what I propose is to educate the general practitioner, through the transactions of this Society. Through a confidence on the part of the public, begotten of ignorance of our profession, and which no amount of education or intelligence will prevent, these cases must be taken hold of in

some way by the general practitioner. The public insist upon it, and I contend that in the ordinary, simple, and easily managed cases, the general practitioner ought to be taught how to handle such cases, so that he will not be making surgical subjects for me and you and others, but will treat them rationally, if not successfully. This is the main object of the brief remarks which I have thought proper to make here to-night.

Of course, as I said before, I would not exclude major gynecology, interesting operations, and the like,—I do too much of that sort of work to feel indifferent to it,—but I believe that much good could follow the popularizing of principles of diagnosis and treatment. By popularizing, I mean presenting rules and principles which will reach the ears of the general practitioner and do away with a great deal of this charlatanism, and the abuse of that confidence to which I have alluded. Patients frequently come to me after having been subjected to local tinkering for perhaps months in succession, and neither in the existing condition, nor previous history, is there any good reason to surmise that repeated topical treatment had ever been called for. I think one of the best ways to stop this imposition is to educate the general practitioner, not only as regards diagnosis and treatment, but in the observance of moral principles.

I thank you for the very kind manner in which you have received my paper.

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EXPERIENCE WITH THE GALVANO-CAUTERY.

BY W. J. CORCORAN, M.D.,
Gynecologist to St. Mary's Hospital.

Read before the Brooklyn Gynecological Society.

A paper, published by Dr. John Byrne, in the October number of the *American Journal of Obstetrics*, recorded a case in which vaginal hysterectomy was successfully performed by means of the galvano-cautery knife. Since the appearance of that paper, which has excited no little interest, I have been asked so many questions on the subject by those who knew of my connection with the operation, and my long experience in cautery work, and the amount of misinformation displayed by many of those questions has been so great, that I thought I could not better utilize the privilege accorded me this evening than by giving my

experience with the galvano-cautery as applied to surgical work. That experience began in a way which well illustrates one of the reasons for the divergence of views concerning this agent, so ably employed by its author, and so aptly advocated by him with the logic of figures and recorded results, and which, it must yet be confessed, has not received the frank endorsement of the profession, and in some instances has been positively condemned. I own to being an enthusiast on the subject and my remarks must be subject to that criticism. With the many opportunities I have had for observing and performing the operation; for conducting the after-care of the patients, and in many cases happily being able to follow their future history, it could hardly be otherwise; yet I hope from the same conjunction of circumstances to be able to give some reason for the faith that is in me.

While a medical student in New York, I was present at an operation performed for uterine cancer, in accordance, as it was claimed, with Byrne's method. The operator attacked the diseased tissue with the cautery, while the gentleman who manipulated the battery, knowing nothing of what was going on in the vagina, simply pumped up heat to the best of his ability until the battery boiled over. The curette was used while the operator's back was almost turned to the patient as he addressed the students, and the alleged Byrne operation was finished with the Paquelin. The patient was conveyed through devious ways to a waiting carriage, and removed over the pavements to a neighboring hotel. Despite the pressure of tampons maintained by relays of students for twenty-four hours, she succumbed to hemorrhage. Directly afterward, I received my appointment to St. Mary's Hospital, and the very first operation was for uterine cancer by galvano-cautery. It is hardly necessary for me, before you, gentlemen, who have yourselves witnessed what I saw there, to dilate upon the differences in the two operations. The slow careful dissection, the careful management of the heat, the assistant never taking his eye from the knife, but maintaining a uniform heat, leaving the operator free to attend solely to its application, the thorough cauterization of the *dry* stump, all this satisfactorily explained to me why one patient died and the other never had a single bad symptom. The logic of the condemnation of the operation expressed in the one case and its ardent advocacy in the other, needs no comment. Since then, either as assistant or operator, I have been concerned in not less than five hundred cases, and I know of no death chargeable to the operation, and of

but two even remotely connected with it. While I have had the opportunity of personally observing the results in a number of these cases through periods varying from one to twelve years, I do not attempt to give exact figures, for the labor involved is large, and at the same time unnecessary, as they have already been published in the statistics presented by Dr. Byrne. These statistics give results superior to those of any other operation performed for uterine cancer in the *ultimate benefit* to the patient, while the primary mortality is *nil*. In the very large number of hysterectomies, vaginal and abdominal, performed in late years, the mortality of the operation in expert hands, *i.e.*, of men who number their cases in the hundreds, has been reduced to a remarkable low percentage. But, when we come to question the ultimate result to the patient, the one most concerned and whose final benefit should be the end of all our efforts, we at once begin to stumble in darkness and doubt, and very little reliable data can be obtained. If the operation is completed and the patient survives, she is discharged well. It is then her business to remain well, and whether she does so or not, seems to be a matter of complete indifference to the operator, she is marked "cured" in his list and that, for him, is the end of the chapter.

Whether such carelessness in observing and recording the real results of operation may have concealed a considerable extension of life to these patients or not, the fact remains that the published statistics do not show an average prolongation of life much beyond what would be the natural period of the disease were it left to pursue its course unchecked, and we do know that that period is often distinctly shortened. Such are not the results of excision by galvano-cautery. The patient is never worse for the operation, and the average subsequent duration of life shows a decided gain. Independent of actual recorded facts, there are good reasons why this should be so, as I will endeavor to explain.

In operating for malignant disease, our line of excision is always in sound tissue. In using the cautery, the same rule holds good, we travel if possible through normal structure. It is not always possible to be sure that we are beyond the limits of the disease, and germs of malignancy may lie unrecognized in the path of the knife, to be aroused to increased life and more rapid growth by the traumatism of the operation. In this respect the cautery gives us a tremendous advantage, which more than compensates for the loss of primary union. It not only destroys where it touches, but the influence of the galvanic current extends

far beyond the point of immediate contact, and influences cell-growth and cell-structure to a point far removed from the line of actual incision. I may say here, that experiments have been undertaken with a view of proving this assertion by physical demonstration. They are, however, crude, very incomplete, and as yet of no particular value. Changes in cell-structure have been recognized by the microscope as far as half an inch from the line of distinct cautery action. I am not enough of a histologist to appreciate this statement at its true value, but personally I believe the influence exerted to be rather a modification of the future growth and life history of the cells than the accomplishment of any change recognizable by the microscope. The *modus operandi* I am unable to suggest, but of the fact that such change is accomplished I am positive. In no other way can the results obtained be explained. It is not necessary to consume your time in narrating cases that are already a matter of record, and are besides individually known to many of you. Cases where it has been barely possible to trim the edges of advanced malignant growth, and where it was a moral certainty that the knife traveled through tissues already well supplied with cancerous elements, yet the result has been a perfect cure. This was not accomplished by actual cautery, for the heat could not reach the probable limits of the disease, but by some influence extending far from the line of separation which changed the malignant tendency of the surrounding tissues to normal healthy function.

The nature of this influence, except that it may be galvanic, its scope and limitations I am unable to give, but that it does exist has been proven to me beyond doubt by the careful observation and aftercare of these cases for the past twelve years.

A case bearing on this point returned to me only last week. The patient, a hardworking woman, entered St. Mary's Hospital in 1885, with complete procidentia, the uterus and bladder between the thighs. Restoration of the perineum had failed of any effect on the prolapse, and pessaries were of no avail. Following up an accidental discovery, viz., that amputation of the cervix by the cautery fixed the uterus, this cervix, restored to place, was encircled by the loop and the current turned on as if for an amputation. When the wire had sunk to the depth of about one-quarter inch it was removed, and the uterus was then held in place by a large, firm tampon. The convalescence was

absolutely afebrile and there was no sign or symptom that would in any way indicate pelvic inflammation. In two weeks that uterus could not be pulled down.

Since then the patient has been continuously employed at heavy labor. All the causes which produced the procidentia in the first place have been still at work, and yet it is only after the lapse of ten years that the uterus now again has begun to descend.

At about the same time three other cases were operated upon in a similar manner, and remained well until they passed from observation. I will not attempt to explain the mechanism of the result, but simply give you the facts.

From another standpoint. Operation by galvano-cautery is attended by no risk to the patient, and with a minimum of discomfort. And when I say no risk, I mean *absolutely* no risk chargeable to the operation. Accidents will happen and blunders will occur. For instance, in one of those bad cases in which the rectum and bladder were barely avoided, on the third day the gentleman in charge, alarmed by an oozing of blood from the vagina, pushed a tampon through the posterior cul-de-sac into the abdominal cavity, tearing open the rectum and flooding the cavity with its contents. The inevitable result promptly followed. Another patient after a very trivial operation on the vaginal wall, contracted pneumonia and died. But even charging such cases as these against the operation, the total mortality is two, less than one-half of one per cent. of cases of all kinds, from those in which we hope to obtain a permanent cure to those that usually leave the surgeon with a prescription for morphine and the advice to the patient's friends to make her as comfortable as possible while she lives.

There is practically no pain. It is rare that they ever receive even one opium suppository, and when an anodyne is required it is generally on account of some accidental, superficial burn of the vulva, for it is another curious fact that a deep burn is free from pain, while a mere searing of the integument is very distressing.

There is no such thing as shock. The convalescence is absolutely afebrile. The reason is not far to seek, for no operation could be more religiously aseptic. We have to deal with no bacilli of so robust a constitution as to survive the fiery ordeal of the operation, and let them be introduced afterward in whatever abundance, while they may find a culture medium in the detritus of the cauterized surface, they will find every absorbent

sealed and the patient safe from septic infection. All our efforts at sterilization and rigid asepticism, which have rendered possible the brilliant triumphs of surgery, are feeble in comparison with the absolute safety in this respect of the agent under consideration. I have often seen the peritoneal cavity accidentally opened by the cautery knife, and with no further attention paid to this than the subsequent packing of the vagina with iodoform gauze, have yet to see the case where this accident, in the slightest degree, complicated convalescence.

The only danger left to the patient is hemorrhage. It is currently believed that the cautery is advocated principally on account of its hemostatic power. On the contrary, while affording a remarkable gain to the patient in this respect, it is one of its minor virtues. I have seen as copious hemorrhage accompany a cautery operation as I ever witnessed, and that when properly performed. When improperly performed, the trust in this power of the battery is even a source of danger, as the bleeding caused by a knife brought to a white heat is exceedingly difficult to control. Every little vessel bleeds as if it were individually entitled to a ligature, and clamp and tampon is the only resource. With the knife at a cherry-red heat, and that heat applied *after* the knife has been brought in contact with the parts, and then handled as carefully as you would handle scalpel or scissors, very vascular tissues can be traversed without the loss of a single drop of blood—no small gain when dealing with patients already exsanguinated by long-continued hemorrhage. Any attempts to obtain speed in operation, by the use of undue pressure or too much heat, simply invites disaster. Slow, careful work and thoroughness are essential. Moreover, if an artery of large size, such as the uterine, be severed by the cautery knife, however carefully handled, that vessel will bleed promptly and vigorously, and there is no power in the galvanic heat which will control it. This may sound like a very stale piece of information, but it is a fact which I have been frequently obliged to state in discussing this question; and as this paper is, to a large extent, a reply to a long list of questions asked on the subject, the limitation of the cautery in hemostatic power deserves a place.

Such a misinterpretation of plain facts as is implied in the necessity for making the above statement brings me at once to a question which has been put to me oftener than any other, and more frequently by those who have witnessed the operation and have had the opportunity for following its results: Why is it

that the operation which has achieved such results, and with a minimum of risk and discomfort to the patient, is so seldom practised beyond a limited circle? Why is current literature silent, and why do our text-books and works of reference grant but the scant courtesy of a passing mention? This question, I confess, I am unable to answer. I have looked in vain for a reasonable solution, and in turn I must refer it to you. There is no body of men devoted to gynecological work among whom the problem is more apt to find solution. You are all familiar with the operation and its results are every day before you, while many have practised and do practise it in suitable cases, and can therefore speak from personal experience.

Is it that bungling attempts, such as previously quoted, meeting with merited disaster, should condemn such measures, judiciously applied? Is it that the apparatus is complicated and requires an expert electrician to manipulate it? Some knowledge of electrical law is, of course, required, such as the uselessness of atmospheric air as a conductor and the necessity of metallic contact to insure galvanic action. The instrument is not automatic, but otherwise is the simplest in existence; in fact, far less complicated than the ordinary electrical apparatus in daily use in our offices. Its greater power is the only drawback to the same reckless, careless use given to them. The same is true, however, of other powerful remedial agencies. It is safe to say that if the profession used opium or aconite with as little knowledge of their therapeutic energy as is thought necessary in the application of electricity, many of us would be granted a personal trial of its effects as applied by the State. It is distinctly not a mechanical agent, and something more is necessary than to press the bulb and let the machine do the rest; but it does seem as if the surgical skill and intelligence, which can successfully enucleate almost the entire contents of the pelvis, should be sufficient to master the technique of cautery work.

Is it that investigators, having concluded from *a priori* reasoning that good results are impossible, deny the accuracy of recorded facts? I have heard an occasional insinuation that the statistics given were not correct, and I desire here simply to add the testimony of one who, in the past twelve years, has been present at nearly all the operations performed by Dr. Byrne, who has had the aftercare of at least one-half of the cases, and has had the opportunity of observing the subsequent history of a considerable number. I know how laboriously these figures were

compiled, and I know them to be accurate. They are open to but one criticism, and that is that they are weighed down by very many cases that should not have been included—cases utterly beyond hope, and when the only reason for interference was the faint hope of alleviating present suffering. Occasionally reward has come in the restoration to health of one of these sufferers for an unexpectedly long period of time. I recall one patient brought to the hospital in almost a dying state, where the condition was so bad that the operation could not be finished at one sitting, and it was necessary to complete it on another day. To our surprise, she rapidly gained health and strength, and during my attendance on her, for a period of about two years, did all her own housework, was able to attend church and theater, and enjoy life fairly well. Certain differences of opinion concerning finance caused our estrangement, and I have been unable to learn how long she survived. The introduction of these two years into a statistical table, which endeavors to show the average exemption from recurrence, will not compensate for the many similar ones whose lives were not prolonged, where the operation was undertaken with no such hope, but simply with the expectation of relieving, to some degree, pain and distress. Were such cases omitted altogether, the showing would be more favorable, for such as they are not included in the reports of any other operation performed for this disease. I believe also that the term "high amputation," as applied to this operation, has served to convey a false impression, viz., that the parts removed consist simply of the portio vaginalis, or what it is possible to include in the cautery loop. As a matter of fact, the loop is very seldom used, and, as a rule, only for the preliminary removal of projecting growth, that the underlying disease may be more advantageously attacked. Excision or extirpation would more aptly express the idea of the operation, which endeavors, as far as possible, to remove all the diseased portion, and to such an extent is this carried that often there is left but a mere shell to represent what was a cancerous uterus. When to this is added a thorough dry cauterization, it can readily be seen how complete is the work, and the only parts beyond reach lie in the very fundus or parametric tissues.

Briefly to recapitulate :

The operation is not difficult to ordinary skill and intelligence.

The inconvenience of the instrument is slight in comparison with the trouble involved in securing aseptic conditions.

The operation is aseptic beyond all others, and cannot be marred in this respect by the carelessness of operator, assistant, or nurse, while it is free from the possibility of subsequent infection.

It is practically bloodless.

It is free from the element of shock.

It is attended by the minimum of pain and discomfort. The patient is better in twenty-four hours than she was before she was touched.

The *primary* mortality is *nil*.

The *ultimate* result shows a period of exemption and a prolongation of life superior to the published results of any other operation devised for the relief of this disease.

There is an unknown influence in the action of the galvanic knife, which extends its beneficent action to parts beyond the line of excision, and accomplishes in unreachable structures the same result that we endeavor to procure in mammary cancer by the removal of surrounding glands and the pectoral muscles.

Finally, if by this same agent, which does so well in the removal of the diseased portion only, we can accomplish the complete extirpation of the whole organ, we have an operation which extends the best hope of a complete and perfect cure that has yet been offered to these unfortunate sufferers.

DISCUSSION.

Dr. Chas. Jewett: Mr. President, we are indebted to the doctor for an able and interesting presentation of the claims of cautery in the treatment of uterine cancer. The method is one which deserves more attention than it has received. An obvious advantage of the cautery is complete asepsis. In certain cases, no doubt all the diseased and infected tissue can be removed, and the results reported by the reader of the paper and by Dr. Byrne commend the operation as one deserving to stand side by side with hysterectomy until experience has proven that hysterectomy gives better ultimate results than the mere removal of the diseased tissues with the cautery knife.

The cautery knife is, too, a very valuable adjunct for at least the first step in vaginal hysterectomy. It frequently makes this part of the operation a bloodless one, and it obviates the necessity of hemostatic sutures in the vaginal wall at the close of the operation. It is one which I have used with satisfaction—used, in fact, to-day.

Theoretically, total ablation, on the other hand, appeals to the judgment of the surgeon in cancer of the uterus, as it does in cancer of other organs. In carcinoma of the breast, the surgeon considers it necessary to remove not only all the diseased tissue, but the entire mammary gland, and with it the pectoral muscles and all of the lymphatic glands that are known to be or that might be involved. A similar rule is enforced in the treatment of cancer generally. If there is any criticism on the doctor's method, it is the uncertainty that the operation reaches all the infected tissues of the uterus.

With reference to the theory offered as to the action of the current on the structures left behind, I cannot agree with him. The current which runs through the cautery knife passes from one pole of the battery to the loop or knife and back again to the other pole of the battery, none going out into the tissues. I assume that the galvano-cautery does not differ in effect from any other kind of cautery. The action of the instrument must be simply that of a hot knife or iron. The tissues are disinfected, the cancerous elements are destroyed, only so far as the slough goes; at least, that is my belief.

The use of the cautery in the treatment of procidentia is a method we are familiar with through the teachings of Dr. Byrne. No doubt the results are quite as permanent as in many cases of ventral fixation and of most other operations for the purpose. The effect, I take it, of the knife is to set up an inflammation, with resulting proliferation of tissue, which blocks the pelvis and holds the uterus up. The inflammatory products must be absorbed in time—I am glad to know it is ten years in some cases—but ultimately we must expect the uterus to come down again. The Doctor would perhaps reply to this that in ten years we could afford to repeat the operation, which would be a competent answer to the criticism.

Dr. W. B. Chase: I have been greatly interested in the paper presented by Dr. Corcoran, because it brings into view in a compact form the arguments in favor of the value of the galvano-cautery.

Now, I am unable to speak, Mr. Chairman, from personal experience of the value of it, but from the courtesy extended me by Dr. Byrne during the last year or two in witnessing a number of his operations for malignant disease involving both the cervix and the corpus. I have been impressed with the great value of this method of attacking malignant disease. The absence of hemor-

rhage, when used by skilful hands, like Dr. Byrne's, is a marvel to me; that so much tissue could be separated with scarcely the appearance of blood, and doubtless, as the author of the paper has already stated, there is no method by which the absorbent vessels can be so thoroughly sealed as by this application of heat. Dr. Byrne is very careful that the intensity of the heat is not too great, because, if it is, he fails to accomplish the very purpose which leads him to adopt this method of procedure. It is not, as the Doctor has said, to the over-intensity of the heat, but to a proper degree of heat, that you get just that influence which is so beneficial in its results.

I cannot but believe, Mr. President, that the value of this method of operation would exclude all other methods, but the great value of it must by and by become recognized by the medical profession, and by gynecologists in particular. I am sure that many have never fully realized the results attainable by simply reading the paper. They might have distrusted the value of the statistics, but if they could have had under their immediate observation the results of Dr. Byrne's work, I am sure there would be a great many more who would use the galvano-cautery for this purpose than now do.

Dr. Ernest Palmer: Mr. President, my own experience with the Byrne galvano-cautery is identical with that which Dr. Corcoran has presented us this evening in his excellent paper.

It is my opinion that the main reason why this method has not been more generally adopted is that but few surgeons have thoroughly acquainted themselves with the mechanism of the battery before attempting its use, and, from their want of knowledge having failed to obtain satisfactory results, have abandoned it.

A thorough understanding of the composition of the Byrne battery in all its parts is, in my judgment, a prerequisite to success in its use.

To obtain the technique of the Byrne method, repeated observation and practice under the guidance of one expert in its use is necessary.

Dr. J. C. MacEvitt: I simply rise, Mr. President, to add my voice in confirmation of the statements made by Dr. Corcoran in the ably presented paper, and also to add that the operation is brought into disrepute by the erroneous ideas prevailing regarding what it can accomplish. For instance, time and time again has Dr. Byrne had cases sent to him to the hospital for his oper-

ation, in which we would find simply the shell of the uterus, the fundus and body completely involved by this malignant tissue. While in such cases no operation for radical cure could be thought of, such cases are sent to him, and yet in these very same cases a very great deal of good can be accomplished. The excessive pain that the patient suffers, the alarming hemorrhages coming on frequently, can be controlled. It is absolutely wonderful the effect of the heat or of the current, which it is I am unable to say, but after thorough curettage and cauterization by the *dome*, the patient can be sent home and will live for an indefinite period—months—without any return of the pain or hemorrhage. I know of one particular case in which I cauterized a patient, similar to the cases to which I have just referred to as beyond all hope of a radical cure, and the patient lived for seven months afterward, and died without a recurrence of the hemorrhage. The very last case that Dr. Byrne operated on—that is performed his high amputation—was a patient of mine. It was such a thoroughly typical case for Dr. Byrne's battery operation that I suggested the advisability of inviting some of the leading gynecologists of New York to be present. A number of invitations were sent out, and three of the gentlemen put in an appearance—Drs. Grandin, Currier, and Boldt. The operation was performed to the gratification of the visitors, and the patient to-day is still under my observation, performing her household work, without the slightest indication of return. After hearing the expressions of Drs. Grandin and Boldt, I asked permission of Dr. Boldt to be present at his vaginal hysterectomies at St. Mark's Hospital, that I would like to keep a record of a number of operations, and do the same for a like number of Dr. Byrne's cases. I visited St. Mark's Hospital and saw Dr. Boldt operate on three occasions, and I have a record of the cases; and in my enthusiasm at the time I indited a letter to the *Gynecological Journal*, in New York, asking the profession in New York interested in gynecology to select a certain number of cases of operation by Dr. Byrne and a like number of those by vaginal hysterectomy, and compare the results after a careful watching of the cases for a certain number of years. This was not responded to in any way.

A point that Dr. Corcoran did not mention, which is really necessary in the after-treatment of these cases, is that where there is pain caused by touching the vaginal tissues, which sometimes happens—it is very hard to avoid that—the application of a solu-

tion of soda in some oleaginous substance, or simply in water, will give relief to that pain.

Dr. Byrne: Mr. President, from the very excellent résumé of work done largely by myself, as stated by the author of the paper, and from the remarks of my friend Dr. Palmer, I cannot see, sir, that there is anything whatever, left for me to say. It would be needless for me to state that I endorse the views expressed in this valuable contribution, because they are largely the views which I myself have proclaimed for many years.

As Dr. Corcoran has stated, there is a prevalent misconception with regard to cautery work. There is a universal lack of that philosophic knowledge which every educated man ought to possess regarding electro-physics, and there does not seem to be a desire on the part of even the most intelligent and progressive members of our profession to give the subject even consideration, much less practical trial.

There is but very little knowledge needed to enable any intelligent professional man to grasp the philosophy of the construction of a galvanic battery, and anyone with a moderate degree of surgical dexterity can readily become accomplished in the technique of these operations.

There is something to me incomprehensible in the indifference shown by the profession to the employment of an agent, the value of which I have been demonstrating practically for a quarter of a century, and proving beyond all question its singular utility in malignant diseases of the uterus.

During the last decade, vaginal hysterectomy for malignant disease of the uterus seems to have become a surgical craze. I have taken a great deal of pains to search the records of Europe and this country, and I have no hesitation in stating that the vast majority of all cases in which vaginal hysterectomy has been performed for cancer of the uterus, would have lived longer and suffered less if they had been let alone. The records of the most enthusiastic gentlemen when sifted and thoroughly looked into, prove this. The average longevity in cases of well-marked carcinoma of the uterus is not less than twenty-four months, and yet, the vast majority of those who had been operated on by ablation of the diseased organ, do not enjoy anything like twenty-four months of existence, much less, freedom from the recurrence. Hence I say, if there is not some better surgical method of meeting cases of that class than the removal of the entire organ in the ordinary manner, they would better be left alone. Any case

of well-marked cancer of the cervix uteri, but with no evidence whatever so far as can be discerned that the disease has invaded the corpus, will have ten chances to one by high extirpation or excision with galvano-cautery, than it will have by total extirpation in the ordinary manner. This seems at first sight to be somewhat paradoxical, as intimated by a gentleman who one asked me, how I could say that the removal of a part of a diseased organ is better than the removal of the whole of it? I now think the answer very plain. In the one case you have many dangers to encounter, the most serious of all being traumatic infection, because, no matter how aseptic you may try to make your operation, there is grave danger of infecting outlying structures. Again, I have seen several well-known French operators as well as others do this operation over and over again, and I was always struck by the closeness with which they kept to the uterus itself, almost invariably a portion of the uterine tissue being included in the stump of the broad ligament. In the method of operating which I have adopted, you avoid traumatic infection absolutely, and hemorrhage also, if the operation is properly done. But this is not all, because, what little of the disease you cannot, or fail to remove, you utterly destroy by heat, and without injury to healthy parts.

Hence I say, you do more than remove the part that is excised by the cautery knife, you destroy morbid processes in the cells of outlying parts by this intense heat, and it is this which secures the patient against recurrence. If this were not so, the results to which Dr. Corcoran and others have referred here to-night could not have occurred. I know at this moment at least four cases in this city, one nine years operated on, and an apparently hopeless case too; another eleven years; one fourteen years, and one I think—but I merely guess in this case—must be between fifteen and sixteen years, since operation was done, all now enjoying perfect health.

Now, sir, the records of hysterectomy can show no results like that. We have paraded before us a few cases that have reached three, four, and five years, and a few seven or eight years, and that is the best they can do, though they have been at this work now for nearly eighteen years. Therefore, I say, if the choice is to be made as to the best disposition of a case of cancer of the cervix, and that choice is between doing nothing and hysterectomy as ordinarily performed, then I say let her alone, and she will live longer. As to the value of my method of operating in

cancer of the cervix, there cannot be a possible doubt in the mind of anyone who has ever had an opportunity of observing the results.

Now, allusion has been made here to the operation which I published a few months ago. I would like to say in connection with that, that the cases of cancer which will be found suitable for that proceeding are very few. Some twenty years ago I think, we used to see many of these cases of cancer in the early stage. Somehow or other, we don't see them now, at least we see them but very rarely, and unless the case is seen at a very early stage and before the surrounding tissues become infiltrated and diseased, and the mobility of the organ is interfered with seriously, the operation which I have described and published would be extremely difficult to do satisfactorily. There is no question as to the choice of doing the operation when it is possible or feasible to do it from start to finish with the cautery. There is no comparison between such an operation and that of partial cauterization of the vaginal parts, such as Dr. Jewett has referred to, and such as Jacobs of Brussels, does by making the circular incision merely around the cervix and then stripping up in the ordinary way the anterior and posterior parts. I believe the doing of the operation altogether by the cautery is perfectly feasible in many cases, and it has very many and very palpable advantages.

I fear I have tired you, Mr. President, and I do not think I have anything further to remark, except to extend my thanks to the reader of this paper for the very excellent résumé of the subject which he has presented, and which I see has interested the Society to a considerable extent.

Dr. Corcoran : Mr. President, there is very little more to be said on the subject. I would simply like to refer to one point which was brought up, on which I think I was misunderstood. I did not mean to claim that the galvanic action of the current extends beyond the knife or loop. It is true that the current passes from one pole of the battery through the loop or knife, and back to the other pole of the battery, and that the current goes no further, but there are such things as induced currents, and our knowledge of electricity as applied to the human body is exceedingly limited. We know very little about its therapeutic effects ; we are mere infants in the use of electricity in any such way ; and while I do not say that this action is galvanic, I do not say that it is not. What it is, exactly, I do not know ; I am not

able to explain. We can say from *a priori* reasoning that the effect of heat is the same, no matter from what source it is derived. If we look backward, we have the fact that it is not the same; the results are different. That is a matter of fact and record, not theory. There is some difference in the effect produced by heat from the galvano-cautery and heat derived from other sources. Why, I do not know; but it is there.

Dr. Byrne: I omitted to refer to that very point. I have never been able to settle that point in my mind. I have believed or tried to believe that there is some peculiar action beyond the mere severing and cauterization of the tissues by the galvanic cautery, but I have no proof of it. The heat alone is sufficient, in my mind, without any other agency, to accomplish the results which I have obtained.

PROCEEDINGS OF SOCIETIES.

MINUTES OF THE 373d REGULAR MEETING OF THE BROOKLYN PATHOLOGICAL SOCIETY.

The meeting was called to order by the president, Dr. Frederic J. Shoop; twenty-three members were present.

The paper of the evening upon "The Bacteriology of Chronic Endometritis" was read by Dr. J. P. Warbasse.

DISCUSSION.

Dr. J. M. Van Cott, Jr.: The technique employed by the author of the paper in conducting his experiment was unusually good, and as a consequence the results obtained should be regarded as reliable. While it is certain that pathogenic germs are a comparative rarity in the cavity of the uterus, still they are at times found. The site of the uterus is much more favorable to the lodgment and growth of such organisms than is the kidney or other organs of the abdomen. Probably further histological research, such as is outlined in the paper, will show that in the endometrium, as in the appendix, the changes in the membrane are due to circulatory disturbances, possibly *endarterial* changes not yet understood.

Recent literature of pathology was represented by two books which have just been published, and which were shown by Dr. J. M. Van Cott, Jr.:

"Surgical Pathology and Therapeutics," by Dr. Warren. A large volume profusely illustrated, and dealing largely with the bacteriological findings of the past few years.

"Pathology and Surgical Treatment of Tumor," by Nicholas Senn. This, too, is published by W. B. Saunders, and is a valuable contribution to the subject. It is of more value to the practical surgeon than to the theoretical pathologist. The illustrations in this book, too, are very numerous and good.

REPORTS OF CASES AND PRESENTATION OF SPECIMENS.

EMPYEMA OF THE GALL-BLADDER.

Reported by Dr. Henry B. Reed and Dr. Henry P. de Forest. The patient, a woman, seventy years old, a native of Germany, was subject for several years to attacks of biliary colic; her general health was, as a rule, good. About the 1st of March (March 4, 1895) she was taken ill, had a severe chill, followed by a remittent fever that for several weeks simulated the usual fever of malarial origin. About the 15th of April the fever became continuous, but subject to wide daily variations: sometimes from 96 to 104, within six hours. She became markedly jaundiced, and mentally somewhat slow, at times slightly delirious. She had considerable pain referred to the right hypochondriac region. July 1, 1895, palpation showed an area of increased resistance over the region of the gall-bladder. The area of liver dulness was about seven centimeters wide in the mammillary line. There was moderate tympanites, but no free liquid in the abdominal cavity. Lower extremities were edematous. The stools were clay-colored, and a movement was only secured by the use of laxatives; phosphate of soda, in thirty-grain doses, giving the best results. Fluid diet was used for months. The diagnosis was made largely from the local physical signs, and the septic course of the fever.

Her condition gradually improved; she was removed to another part of the city on account of the possible influence of bad plumbing on her condition. An octahedral biliary calculus was passed per rectum on the 21st of July; this was preceded by an attack of pain lasting for about an hour. By the first of September she was able to go about the house, and made several short trips to the seashore.

December 13, 1895, she had a chill, followed by a severe asthmatic attack. A continuous fever developed but it rarely reached 100°. Supporting and symptomatic treatment was used. The

edema of the legs returned and later, marked ascites. For the relief of this latter condition tapping was done, and $8\frac{1}{2}$ litres were removed from the abdominal cavity. Diuretin in twenty-grain doses was used to prevent recurrence; it helped for a day, but a serous diarrhea developed which was checked with difficulty. She died in an asthmatic attack on the 10th of January.

The autopsy showed that, with the exception of a slight atheromatous condition of the aortic valves and aorta, the thoracic organs were normal. The abdomen contained about eight litres of clear straw-colored serum. The spleen, kidneys, bladder, and pancreas showed slight changes due to atheromatous vessels. Generative organs atrophic.

The liver and hepatic flexure of the colon were firmly united by inflammatory adhesions, and the omentum and fatty fringes along the transverse colon were stained green, probably from bile. The liver was carefully separated from the colon, and it was found that the site of the gall-bladder was occupied by an abscess cavity which was practically empty, and which communicated through an erosion in the wall of the colon with the interior of the gut. The duct leading from the gall-bladder could not be found. The liver was of small size and very hard, owing to the increase of connective tissue, and the compression of liver cells.

The abdominal aorta and its branches were very atheromatous, and as hard and brittle as pipe-stems. There was a fusiform aneurism in the aorta just above the junction of the common iliac arteries.

ULCER OF THE ESOPHAGUS.

Reported by Dr. L. C. Ager. The patient was a woman, sixty years old. Early in her life she used alcohol to excess. There was no history of traumatism. Her illness was of several years' duration, but the diagnosis was never made with any certainty. All food, whether solid or liquid, was regurgitated, more or less completely. Great emaciation developed; there was some pain referred to the hypogastric region. She was under observation at the L. I. C. H. for two months, and an operation was talked of, but the symptoms were too indefinite. Finally a stomach tube could not be passed. She died from starvation.

The autopsy showed all the organs save the esophagus to be somewhat smaller than usual, but otherwise normal.

The upper end of the esophagus was dilated for about three

inches into a sort of pouch. At the lower end of this pouch the tube was closely contracted, and ulcerated for about three inches towards the stomach. The walls were thickened. The disease was probably carcinomatous in character, though no sections have been made.

RUPTURE OF AORTA INTO LEFT BRONCHUS.

Reported by Drs. H. C. Lack and H. P. de Forest.

The patient was admitted to the Norwegian Hospital in the service of Dr. Turner, January 22, 1896; male; thirty-five years old; longshoreman. Mother probable died of tuberculosis; other members of family fairly well.

Until four weeks before admission his health appears to have been good. At that time he had a sudden and severe chill, lasting for an hour, and followed by fever and sweating. Severe cough, with profuse expectoration, at once developed and continued till death. He lost flesh and strength markedly.

Physical examination showed that the left chest was flattened, and the subclavicular space on the left side was deepened; the right chest was full and rounded. Respiratory movements absent on left side; exaggerated upon right. Apex beat displaced downward and to the left. At the end of inspiration there was a distinct retraction of the left third, fourth, fifth, and sixth intercostal spaces.

Palpation showed entire absence of vocal fremitus over the left side; fremitus exaggerated on right side of chest.

Percussion showed a fixed dulness over entire upper left chest, save at apex, where note was nearly normal. Right side hyperresonant. Owing to the intensity of the left-sided dulness it was impossible to map out the exact size and position of the heart.

Auscultation showed entire absence of respiratory murmur over left side, save close to sternum at apex; on right, respiratory sounds normal but prolonged. At apex was heard a soft blowing systolic murmur, transmitted to the left; other valve sounds apparently normal. Heart forcible and irregular.

Temperature varied from 100° to 103.5°, morning and evening.

On the evening of the third day after admission the patient arose from his bed to go across the ward; he was seized with a fit of coughing, followed by a moderate but gushing hemorrhage, and died in a minute or two. The amount of blood lost was about six ounces.

The autopsy showed that several of the bronchial lymphatic

glands were the seat of long-standing tubercular changes. One of these lay between the left bronchus and the arch of the aorta. The wall of the bronchus was gradually eroded, and the gland capsule discharged its contents gradually into the left bronchus, thus leading to the tubercular pneumonia which had involved the entire left lung. The pleura was half a centimeter thick in places, and the lung was broken down, and gangrenous. The right lung was quite normal, but had undergone a compensatory hypertrophy, its apex reaching to the left of the sternum. There were no tubercular foci, nor pleuritic adhesions involving the right lung.

As a result of the gradual progress of the tubercular process the bronchial gland had eroded the aortic wall, and at the time the patient arose the thinned aorta had given way, causing a copious hemorrhage directly into the bronchus, and death occurred from acute asphyxia. The other organs of the body were normal.

MULTIPLE CONGENITAL VERRUCE.

Reported by Dr. A. H. Bogart. The specimen was a fetus of about five months, poorly developed, and thickly studded with small, whitish-warts. These were especially numerous on the head, and on the extended surfaces of the extremities. No syphilitic history could be learned.

UTERUS SHOWING ADENOMATOUS HYPERPLASIA OF ENDOMETRIUM.

Reported by Dr. J. M. Van Cott, Jr. A similar specimen was presented to the Society three years ago. The woman suffered from prolonged and free hemorrhage, which repeated curettage did not relieve. Hysterectomy was finally done by Dr. Charles Jewett. In normal cases the endometrium is about one-third of a centimeter thick and overlies the myometrium. When this condition of malignant hyperplasia occurs the membrane infiltrates the entire myometrium, growing around the blood-vessels, and breaking into them, thus giving rise to the frequent hemorrhages. Curettage is both useless and dangerous; extirpation of the uterus is indicated; the constant bleeding tends to favor intercurrent disease. The diagnosis is often very difficult; probably, if three thorough curettings had been done with no relief, extirpation is indicated. The microscopic slide, presented with the gross specimen, shows the pathological conditions very well.

Dr. Warbasse stated in the discussion that in this form of endometritis there was a tendency for the follicles of the mucous

membrane to grow into the myometrium rather than merely down to it as is the case with the normal uterus.

CIRRHOSIS OF LIVER; CIRRHOSIS OF SPLEEN; CHRONIC INTERSTITIAL NEPHRITIS; DILATATION OF HEART; EDEMA AND HYDROCEPHALUS OF BRAIN.

Reported by Drs. C. H. Goodrich and H. P. de Forest. The patient was admitted in the service of Dr. A. Ross Matheson at the Methodist Episcopal Hospital, February 1, 1896. He had been in the hospital before, was suffering from dyspnea, dry cough, and usual symptoms of cardiac dilatation and hypertrophy. He improved under treatment, and was discharged. The present attack was more severe, but of the same character: extreme dyspnea, and general edema; toward the last his mind became cloudy, and he was slightly delirious. His death was finally rather sudden. The organs, which were presented, showed conditions indicated by the headings. The ventricles of the brain were greatly dilated and contained a quantity of watery fluid.

The Society then went into executive session.

The president announced the following committees:

COMMITTEE ON MICROSCOPY.

Ezra H. Wilson.
T. C. Craig.
J. P. Warbasse.
W. N. Belcher.

COMMITTEE ON MEMBERSHIP.

Archibald Murray.
E. E. Cornwall.
Walter C. Wood.

COMMITTEE ON LIBRARY.

J. M. Van Cott, Jr.
H. P. de Forest.
Frances Peele.

The meeting then adjourned.

H. P. DE FOREST, Secretary.

BROOKLYN SURGICAL SOCIETY.

April 2, 1896.

Dr. C. H. Terry, President, in the chair.

Presentation of a species of Carcinoma Uteri by Dr. Wackerhagen.

VAGINAL HYSTERECTOMY.

The Doctor said : On June 5, 1895, I was consulted by Mrs. W., who complained of pain in the region of both ovaries, which seemed to take a downward direction toward the vagina. The pain was increased during menstruation, the menstrual period lasting about four or five days, followed by a brownish watery discharge. There was between the menstrual periods considerable muco-purulent discharge.

Vaginal examination revealed a marked induration and eversion of the anterior cervical lip and wall, with apparent excoriation about the os and upper vaginal fornix. The outer surface of the thickened mass was granular, and showed signs of a catarrhal inflammatory change. The uterus was movable in the pelvic cavity and was $2\frac{1}{2}$ inches in length, inside measurement.

I decided to remove the neoplastic cervical tissue for purposes of microscopical examination, and at the same time give my patient the benefit of a thorough curetting and irrigation for her endometritis. This was done on June 19, 1895, and the cervical mass submitted to Drs. Van Cott and Seymour, who reported the same to be a form of glandular hyperplasia, which was proven to retrograde into a true adeno-carcinoma, and advising a careful vigilance as to the appearance and tendencies of the remaining posterior cervical wall. The patient made a speedy and satisfactory recovery from this operation.

On January 10, 1896, I found the remaining tissues of the cervical body becoming rapidly infiltrated, and advised immediate hysterectomy.

On January 30, 1896, I removed the uterus and adnexa, which are here for your inspection, cubes having at a later date been taken for microscopical examination. An interesting phenomenon in connection with the clinical history of the case is the behavior of the temperature following the operation. January 30th (date of operation), 31st, and February 1st, the night temperature reached 100 to 100.6, patient complaining of a deal of pelvic pain and general uneasiness; also of some headache and nausea.

During the two latter days she vomited a yellow viscid material—gastric juice and bile.

On February 5th, temperature reached 101° morning, 102° evening, accompanied by much lancinating pain in abdomen, on right side, and some vomiting, chilliness, and headache. There continued to be a steady rise in temperature until February 8th, 103.0 , in spite of antipyretics and vaginal douches. On February 10th, I placed patient in the dorsal position for the purpose of exploration, and, if possible, find a cause elucidating the febrile reaction. A few sutures in the fornix were removed and the tissues divulsed, coincident with which there was a gush of ichorous pus escaping from the cul-de-sac, probably located between the lower peritoneal folds and the posterior vaginal wall. On the night of the evacuation of the abscess cavity the temperature reduced to 101.4° , and on February 10th was 98.6° . The abscess cavity was cleaned daily and dressed with small drainage tube and iodoform gauze packing. From that time the patient made an uninterrupted recovery.

Microscopic examinations of portions of the organ, taken for the purpose, reveal an adeno-carcinoma.

PRESENTATION OF A CASE OF CANCER OF THE PYLORUS, BY DR. DELATOUR.

The man had been confined to bed three months and gave a history of pain and vomiting following the ingestion of food. He found that every time after he had eaten his food a certain time would elapse, when the pain would become very great, and then he would vomit a mass of sour, dark-colored fluid, after which he would be relieved. On account of the relief which followed these attacks of vomiting, he had learned to put his finger down and produce vomiting before the fluids became so offensive. The patient was greatly reduced in flesh and in strength, and for months had never had a normal movement of the bowels.

Dr. Delatour operated five weeks before the presentation of the case to the Society. The operation was that of Kocher. An opening in the jejunum was made transverse to the gut, but in a curved line, producing a valve, which has a tendency to prevent regurgitation of food back into the stomach, and this sutured to the anterior wall of the stomach. Since the operation the patient has progressed rapidly, and has been able to eat all the food he desired; on one or two occasions, having eaten a little more than he should, the patient has suffered some distress. The Doctor stated that he had vomited only three or four times; that

he cannot retain fats, and tea and coffee distress him. His bowels move regularly without medication, and he has gained considerably in flesh. The growth involved the pylorus, and there was already beginning secondary involvement of the liver. Of course the operation was in no way curative, but the relief obtained certainly all that could be desired. The man now is able to return to work.

PISTOL-BALL ENCAPSULATED BETWEEN METACARPAL BONES; X-RAY PHOTOGRAPH.

Dr. Pilcher presented a young man who, four years, ago had shot himself in the hand, the pistol-ball entering the palm of the hand and ranging upward into its substance an undetermined distance. The Doctor saw him shortly afterward; there was no probing of the wound; it was cleansed and an aseptic dressing applied, and it healed primarily. The Doctor had not seen the case since until a few days ago, when the patient came to him and stated that there was something showing itself upon the back of the hand, and, upon examination, it was evident that between the fourth and fifth metacarpal bones the bullet had come to the surface and could be felt. Thinking the case would be an interesting one to submit to the new method of shadowgraph, although the diagnosis of the case would not be affected one way or the other materially by it, he determined to avail himself of Professor Peckham's kindly offer to submit any patient to the process of shadowgraph whom he might send to him; he accordingly sent the young man to the Professor, and the shadowgraph which the Doctor now presented to the Society was the result. The Doctor called attention to the space between the two metacarpal bones, which could be distinctly seen to be occupied by some mass forming a shadow as dark as the bones themselves; indeed, that the two bones seemed welded together at that point near the base of the fourth and fifth metacarpal bones.

NEPHROLITHIASIS, NEPHRECTOMY.

Dr. Pilcher presented a calculus about the size of an ordinary hen's egg and gave the history of the case, as follows:

Some two years ago a gentleman presented himself in the condition of acute sepsis, with symptoms of pyonephrosis. The left kidney was apparently the seat of trouble. There was history of blood in the urine and pain in that kidney, and on several occasions the patient had passed small calculi, so that there was little reason to question the existence of calculus in that kidney;

the septic disturbances had become very aggravated. Accordingly the kidney was exposed and palpated; nothing, however, was discovered out of the way by the sense of touch. Feeling that there must be something within the pelvis of the kidney which could not be thus discovered, he incised the kidney and passed a finger into the pelvis from the cortex, but still nothing was felt out of the way there. There was, however, an escape of an indefinite amount of turbid serous fluid where the finger perforated the pelvis of the kidney. When the procedure had reached that point, apparently owing to the action of the anesthetic, a very threatening collapse of the patient developed, so that further procedure was out of the question, and all efforts had to be directed to resuscitate the patient. Fortunately, he was resuscitated; the wound in the kidney was tamponed with iodoform gauze; a sufficient number of sutures were introduced to diminish the size of the wound so that there was simply enough of it left open for drainage purposes, and the man was got to bed. From that moment all his septic symptoms disappeared. He improved rapidly, and in due time recovered and returned to his ordinary avocations, and for some two years pursued his business as usual. Quite recently, however, he called upon Dr. Pilcher to say that he had been having some trouble again, and that but a day or two before his call he had had a chill. There was pus in the urine, and he was afraid that things were going wrong in his kidney again. The septic symptoms had temporarily disappeared, but upon examination, a very distinct enlargement was found, with tenderness in the region of the left kidney. In view of the septic crisis through which he had just passed, the evident disease of the kidney, and the probability of renewed crises occurring, and the case going on from bad to worse, he was advised to submit to a nephrectomy, the doctor telling him that he believed the kidney should be taken out, and that it had better be done while he was in comparatively good condition, rather than defer it to a time when he should be in a depressed and dangerous condition from renewal of the septic symptoms. After a few days Dr. Pilcher received word from the patient that he had had another septic crisis and was very sick, and wanted to come to the hospital. By the time he had reached there, a quantity of pus had passed along the ureter into the bladder and been voided, and his immediate symptoms of sepsis had passed away and he was again in a comparatively comfortable condition. The extirpation of the kidney, however, was proceeded with. The opera-

tion passed off without any trouble. The kidney was quite large, the pelvis being evidently distended by a hard mass. After the removal of the kidney without any misadventure, it was incised and the calculus presented was uncovered. The after-history of the case to complete recovery had been uneventful. The chief interest attaching to the case is the benefit which the patient derived from a simple nephrotomy two years ago and the abeyance of the symptoms for so long a time, during which, undoubtedly, the calculus, more or less of it, was contained within some of the cavities of the kidney; and finally, the renewal of his symptoms and the happy outcome of the second attack. At the time of the first operation the kidney was not very much enlarged. The Doctor thought that this calculus was then a small one, hidden in one of the calyces, but which had gradually increased in size during the two years since.

Presented before the Brooklyn Surgical Society May 7, 1896, by George Wackerhagen, M.D.

CARCINOMA UTERI (HYSTERECTOMY).

Early in 1893 I was consulted by Mrs. M., aged forty-seven years, who complained of paroxysmal lancinating pains in the region of the uterus. Menstruation was irregular, and during the three years previous to her interview with me the menstrual periods were very irregular, at intervals of three, four, and sometimes six months. The menstrual flow was always accompanied by much pain, which was often relieved at the appearance of the flow. Subsequent to the cessation of the sanguinolent discharge there was, for a few days, always a muco-purulent accumulation in the vagina, which was sometimes expelled in quantities from the vaginal orifice.

On examining the uterus, I found it to be three inches in length and markedly retroverted. There was also marked induration and redness of the posterior cervical tissue, this extending over a space about one-quarter by one-half inch.

In order to render the diagnosis more certain, I curetted the uterine cavity, and also removed the indurated cervical tissue, this being submitted to Dr. Van Cott, who reported evidence of a very young epithelioma.

Subsequent to the curetting, the patient seemed to improve, she being kept under strict observation as to general and local condition.

In January, 1896—2½ years after curetting—she again com-

plained of pelvic pain and also tenderness over the posterior cervical wall, which was again found to be indurated. There was an offensive leucorrhea. Operation was repeatedly advised, but patient deferred same until March last, when it was performed by the vaginal method. The vagina was very small and the uterus adherent, more particularly on the left side. The attachment to the bladder extended down to about five-eighths of an inch from the lower extremity of the superior lip, which caused considerable difficulty in separating it from the organ. The ligature, which included the left uterine artery (although firmly tied) slipped off immediately after the pedicle was divided. I was fortunately able to secure it with a large Keith clamp before a great quantity of blood was lost. The vagina being so small that it was impossible to ligate the ovarian artery, or to tie off the ovary, two more smaller clamps were applied above and left in position.

The remainder of the operation was without important events.

The cervical mass has been examined microscopically and found to be true carcinoma. I wish to state that I have never seen the bladder attachment so low nor so difficult of separation from the uterus as in the last three hysterectomies reported by me to this Society.

May 7, 1896.

Dr. C. H. Terry, President, in the chair.

Presentation of specimen of appendix by Dr. Friend.

Dr. Friend stated that this appendix was removed from a boy ten years of age, the symptoms appearing on the fourth day before the operation. The child was taken with slight pain, supposed by the parents to be a slight attack of indigestion: the boy was not seen until two days later by any physician, and the next day was seen by the surgeon and operated upon within an hour. The appendix was found to be very adherent to the surrounding intestine, so that in its removal many adhesions were torn through. The interesting point of the case was the fact that when the appendix was laid open after its removal a common pin, with head toward distal end, was seen at its tip end. Upon being questioned, the mother had a distinct recollection of the boy swallowing a pin twenty months before.

Dr. Friend further stated that this was the third case of pin in

the appendix that had occurred at St. Peter's Hospital within one year.

Dr. Tomes presented the photograph of a patient on whom he had two weeks previously performed Albert's gastrostomy for carcinoma of the esophagus. The man had become greatly emaciated, due to his inability to swallow solid food for the last eight weeks, and as during the last week even liquids failed to pass the obstructing tumor, the above operation was performed. The patient rallied very well, and is now able to feed himself through the opening into his stomach.

HISTORICAL DEPARTMENT.

REPORT OF THE HISTORICAL COMMITTEE.

The Historical Committee began its work at the Society meeting held twelve months ago, when we outlined the work we proposed to do and presented biographical sketches of eight of our deceased members.

Since then our work, or rather that of our efficient and energetic secretary, Dr. William Schroeder, has been unremitting, in witness of which we present these five folio volumes, with a volume of index, containing the names of every individual who has ever belonged to our Society, in chronological order, and accompanying these names are the various items, which may be of interest to the biographer or historian for future reference.

These volumes are made by binding the memorandum blanks which have been distributed by our committee and filled in by yourselves, and the committee takes this opportunity to thank those of you who have so promptly filled them out and returned them, thus greatly facilitating Dr. Schroeder's labors, which have, notwithstanding, been great.

Those which have not been filled by the individual members have been entered by the secretary of the committee, with such information as he could obtain by consulting public records, delving through historical collections of all sorts, from the disordered and dusty shelves of the second-hand dealer to the well-ordered and classified library. He has consulted the full file of the Brooklyn and other directories, collected church, society, and college records to aid him in his work, picking out items here and there and entered them in their proper place in the blanks

you have all seen, until we can say we have something of every one who has belonged to the Society since it was formed in Flatbush in 1822.

These memoranda are, some of them, far from complete, but Dr. Schroeder has them in such convenient shape that as he finds fresh items he notes them in their proper place, and thus the work will be continuous.

Besides the records contained in these volumes, the committee have accumulated notes of medical interest bearing on the history of our beloved profession in this county and on Long Island, including the histories of other societies and institutions with which we are in more or less close connection.

In this we have been greatly aided by different individuals of the Society, who have given us their reminiscences and placed their records before us and assisted in their search. As an instance of the unexpected way in which some of our material has been gathered, I will state that in the accumulations found in the garret of a murdered miser, Dr. Schroeder found some of the most interesting records, including a copy of the first printed manual which our Society issued, in 1822, containing the by-laws of the Society, and compilations of the laws regulating the practice of medicine at that time, as well as the list of members and their officers.

The Editorial Committee of the BROOKLYN MEDICAL JOURNAL have given us the free use of its pages, having published since last May no less than 115 pages of our matter, including 28 biographical sketches of deceased physicians, with portraits of 13, often crowding out valuable scientific matter (the writers of which may now understand why their articles, which they think should have long ago appeared, have been delayed).

Since our report last April we have had to record the departure from life of fourteen active members, besides five others who were more or less intimately connected with our fellowship.

The first was Stephen W. Fuller, whose eventful life was given us, with a lifelike portrait, in the January (1896) number of the BROOKLYN MEDICAL JOURNAL, by his friend, Dr. Thomas Rochester.

The second was the venerable Dr. John Condit Halsey, who had reached the ripe age of four score and three. He became a practitioner in the old village of Bedford, somewhere near the neighborhood of Bedford avenue and Fulton street, in 1835. From 1860 to 1887, however, he resided and practised his profes-

sion in the heart of the old City of Brooklyn, until the building of the New York and Brooklyn Bridge compelled him to remove to his old locality in Nostrand avenue, no longer a farming community, but in the midst of a bustling city, which had extended some miles beyond the region where Dr. Halsey had practised as a country doctor. He died on the 7th of May. He was at one time a censor of the society.

May 25th, death entered the council of our Society and carried off one of its younger and most promising members, Dr. George E. Law, who, in the few years he was allowed to spend among us, had endeared himself to the profession, and already held many positions of honor and trust. His portrait, and a biographical sketch from the facile pen of ex-President Alexander Hutchins, have been published in the JOURNAL.

Just one month after the decease of Dr. Law, June 25th, Dr. Joshua Green Wilbur, who had reached the age of three score and ten, died at his summer residence in Upper Montclair, N. J., from the effects of a paralysis with which he was stricken while at a dinner in New York, about six weeks previous. Secretary Schroeder, of the Historical Committee, prepared the sketch of his life which appears, with his portrait, in the December number of the JOURNAL.

July 1st we lost Dr. Fidelio Buckingham Gillette, who died at De Peyster, N. Y. Dr. Gillette was a general practitioner in the Eastern District, residing at 195 Calyer street.

He was born in Friendship, Allegany County, in this State, and of French-Huguenot descent, October 30, 1833.

His academic education was received at the Union Academy, Cumberland, N. Y., and at the De Ruyter Institute, where he was a pupil from 1847 to 1850. After leaving school he became a teacher until he entered the Medical Department of the University of Pennsylvania in 1853, where he graduated in 1856, writing his graduation thesis on the subject of Patent Medicines.

He began the practice of medicine at Belleville, N. Y., the year of his graduation, but the following year (1857) he accepted the position of Assistant Deputy Health Officer of the port of New York, where he continued until 1859, when he returned to private practice at Davistown, N. J.

In 1862 he entered the army as assistant surgeon of the Ninth New Jersey Volunteers, and was commissioned surgeon in February, 1865. In September of the same year he was commissioned acting assistant surgeon in the U. S. A., where he

remained until June, 1872, having made an enviable army record in the medical service of his country for ten years. In 1872 he returned to private practice at Plainfield, N. J., where he, in addition, held the position of City Physician in 1873 1876-1877, the two latter years combined with that of County Physician, and was, during his residence in Plainfield, a member of the Union County Medical Society.

In 1878 he came to our city and settled in the Eastern District, joined the County Medical Society, and continued in the active practice of his profession until his death.

The only medical offices which he held in Brooklyn were medical examiner to the Mutual Life Insurance Company, of New York, and surgeon to Chas. Pratt & Co.'s astral oil works.

Dr. Gillette was besides a member of Brierly Lodge, No. 2, F. and A. M., at Bridgeton, N. J.; of Barbara Freitchie Post, G. A. R., in this city, and the Loyal Legion, Commandery of the United States. His remains were buried at Shiloh, N. Y.

August 3rd we were grieved by the death of Henry Walter Rand, who died while on his summer vacation in New Hampshire. A biographical sketch of the rising surgeon, and his high and noble character, is being prepared, and will appear, with his portrait, in the next number of the JOURNAL.

September 17th, Dr. John Van Ness, a representative of old times, when our Society had the power to examine candidates and confer a license for the practice of medicine. He received his license from the Censors of the Medical Society of the County of Kings in 1852, and in 1867 the Regents of the University of New York conferred upon him the degree of M.D., on the recommendation of the Medical Society of the State of New York. Dr. Schroeder has recently found in his researches the original report of the Board of Censors in Dr. Van Ness' case.

He had been a member of our Society forty-two years, and was at the time of his death seventy-seven years old. His portrait, with a biography by Drs. Evans, Chase, and Matson, was published in the February number of the JOURNAL.

November 11th Dr. John Lloyd Zabriskie of Flatbush died suddenly, at the age of sixty-six, of angina pectoris, in a Fulton street store, where he had stopped to pay a bill.

Dr. Zabriskie's father was one of the earliest members of our Society, having been our president in 1839.

[A biographical sketch with portrait appeared in the August number of THE BROOKLYN MEDICAL JOURNAL.]

Like Drs. Rand and Law, Dr. Richmond Lenox, who died November 14th, was a young man of brilliant promise and high standing among us, and taken away at the age of but thirty-four.

December 18th and 19th death again entered our midst and removed two from our band, which had been so often depleted during the year. Neighbors during a part of the year, Dr. R. L. Van Kleek of New Gravesend and J. Fleet Speir, who had his summer home in New Utrecht.

Both well-known, active practitioners of the healing art, and each with what seemed to be years of useful work still before them.

Thus far, 1896 has dealt more leniently with us than did 1895. The only active member we have thus far lost was Dr. Isaac H. Barber, who had been an honorable physician among us since 1856 and a member of our Society since 1861, and at the time of his death a member of the Board of Trustees—making him the second to be taken from the council of the Society during the year for which we report.

A biographical sketch of the life of Dr. Barber is being prepared, and will be published when ready.

While not at the time of his death actively affiliated with us, we feel the relationship so close that we will notice the death of ex-Coroner Henry J. Hesse, who was well known in the Eastern District and who died at his home, 162 Bushwick avenue, on May 19th. He was at one time a member in active fellowship, but had during the last year allowed his name to be dropped.

Most of us well remember Dr. George K. Smith, who was such a prominent figure in our professional circles for the thirty years previous to 1890, when he removed to New York City, hoping to find there a wider field for his special work in genito-urinary surgery. He died July the 15th, at the home of his nephew, Dr. Frederick H. Smith, in Syracuse.

Another of our old Medical Society workers was Dr. John Sylvester Young, who in 1859 affiliated with us and held the office of secretary for six years (1863-1869), having the previous year been assistant secretary, and was vice-president in 1871. Dr. Young was secretary of the Board of Health from 1886-1888, and deputy commissioner from 1888-1892. A few weeks before his death, September 23d, he had made arrangements to renew his membership with us.

What renders the death of Dr. John S. Young more sorrowful is the fact that his promising son, Dr. Thomas F. Young, whose name had been proposed and accepted by our Society, died on October 26th, but a month and three days after that of his father, and before he was able to consummate his membership by signing the by-laws. At the time of his untimely death he lacked but four days of having completed his thirtieth year of life.

Dr. James August Blanchard, the late superintendent of the Inebriate Home at Fort Hamilton, was a member of our Society from 1868-1878. He died January 8th, of this year, at the age of fifty-six.

George Wieber of the Eastern District, who died in March, was a licentiate of this Society, on account of some informality which prevented us from recognizing his German diploma in 1875.

But four days ago, April 17th, died George Rankin White, who was from 1869-1893 one of our members.

Dr. White was a Scotchman, born in Dunfermline, and a graduate of the University of Edinburgh, in 1863, and a fellow of the Royal College of Edinburgh the same year.

While in Brooklyn he was, among other things, Adj. Phys. to L. I. C. H., 1870-1874.

In 1893 he removed to Rockville Centre, L. I., where he died, at the age of fifty-seven.

He leaves a widow and two children—M. Adeline, wife of C. W. Leighton, and George Rankin White, Jr.

The year 1895 will be remembered in the annals of our Society as having given us the largest death record we have ever known, and the historical committee hope that they may never again have to record the loss of such a number of those whom we have loved and honored, though, as our Society grows in numbers, the number of deaths will, in the due course of natural laws, increase without the relative percentage of losses being any larger.

JOS. H. HUNT,
WM. SCHROEDER,
WM. BROWNING,

Historical Committee.

April 21, 1896.

REPORT OF SECRETARY.

(*Concluded.*)

During the year 1895 death has removed from our membership many of those who have been active workers among us. That which they have accomplished has been duly recorded by abler hands than those of the writer. All that remains is to record their names, which are as follows :

ON THE ACTIVE LIST.

DATE OF MEMBERSHIP.

1869.	Albert Coberg Hallam	Died Jan. 9, 1895
1893.	Louis Conrad	" " 25, "
1888.	Benjamin Burroughs	" Mar. 7, "
1875.	Benjamin F. Westbrook	" Apr. 12, "
1873.	Stephen E. Fuller	" May 2, "
1839.	John Condit Halsey	" " 7, "
1891.	Walter A. Morton	" July 22, "
1886.	George E. Law	" May 25, "
1866.	Joshua Green Wilbur	" June 25, "
1879.	Fidelio P. Gillette	" July 1, "
1878.	Henry W. Rand	" Aug. 30, "
1858.	John Van Ness	" Sept. 17, "
1865.	John Lloyd Zabriskie	" Nov. 11, "
1877.	Richmond Lennox	" Nov. 14, "
1872.	Richard L. Van Kleek	" Dec. 18, "
1863.	Samuel Fleet Speir	" Dec. 19, "
		— Total 16

FORMER MEMBERS OF THE SOCIETY.

DATE OF MEMBERSHIP.

1834-1886.	Ferdinand W. Ostrander . .	Died Jan. 30, 1895
1880-1882.	Charles L. Hogeboom . . .	" Mar. 14, "
1876-1885.	Henry J. Hesse	" May 19, "
1865-1890.	George K. Smith	" July 15, "
1859-1889.	John Sylvester Young . . .	" Sept. 23, "
1895-	Thomas F. Young	" Oct. 26, "
1866-1885.	Daniel Ambrose	" Dec. 16, "
1858-1878.	Arnold Hallett	" Mar. 10, "
		— Total, 8.

WILLIAM SCHROEDER, M.D.,
Sec. of Historical Committee.

MISCELLANEOUS.

BROOKLYN, N.Y.

VITAL STATISTICS FOR SECOND QUARTER OF 1896.

BY GEORGE E. WEST, M.D.,

Secretary Department of Health.

	Reported.	April.	May.	June.
Reported	Births.....	1654	1566	1793
	Deaths.....	1842	1686	1858
Deaths from	Small-Pox.....	0	0	0
	Measles.....	47	30	18
	Scarlet Fever.....	17	13	12
	Diphtheria.....	77	91	69
	Croup.....	22	28	14
	Whooping Cough.....	15	13	16
	Typhoid Fever.....	3	7	2
	Puerperal Fever.....	12	11	7
	Diarrheal Diseases.....	17	19	27
	Pneumonia.....	279	220	130
Reported Cases of	Small-Pox.....	0	0	0
	Measles.....	1042	692	307
	Scarlet Fever.....	226	206	191
	Diphtheria.....	388	543	500
	Typhoid Fever.....	26	7	6
Death rate of	Brooklyn.....	20.3	17.7	20.1
	New York.....	25.0	21.2	20.7
	Philadelphia.....	22.4	17.9	18.6
	London.....	19.2	17.6	16.7
	Paris.....	21.5	20.8	18.3

THE JENNER CENTENNIAL IN JAPAN.

The *Sei-i-Kwai Medical Journal*, edited and published by the Sei-i-Kwai, or Society for the Advancement of Medical Science in Japan, for June of this year, contains an interesting description of the celebration of the Jenner Centennial by that Society.

The celebration was held in one of the exhibition buildings at Uyeno Park in Tokyo, and was attended by over five thousand people, including high Japanese officials, foreign ministers, and other members of the corps diplomatique, and peers of the realm and ladies.

A bust of Jenner, by Mr. Fujita Bunzo, a rising Japanese sculptor, was exhibited, together with "an interesting collection of various objects connected with vaccination, as well as quite a little library of books, in all languages, on the subject.

There were orations by Sir Ernest Satow, the English Minister, and other distinguished orators, with music and daylight fireworks, followed by a collation.

The frontispiece to the *Journal* is a remarkably strong portrait of Jenner, who is characterized as "The Founder of the Theory of Immunity," excellently executed, and evidently of Japanese origin.

Dr. W. N. Whitney, of the U. S. Legation, is one of the vice-presidents of the society, which, from the appearance of their journal (which is printed both in Japanese and English) is an active and progressive institution.

One of the Brooklyn medals has been sent to their museum.

HOW TO PURIFY DRINKING WATER.

BY PETER T. AUSTEN, PH.D., F.C.S.

Professor of Chemistry, Polytechnic Institute.

Next to air, water is the most immediate necessity of human life. Without air one can exist but a few moments; without water life cannot be prolonged more than a few days. The human body is largely composed of water, being about seven-eighths by weight of this substance. Water is being continually eliminated from the body in proportion to the amount that is taken in. This averages, including what is contained in our more solid food, at least two quarts a day. It is the agent by which the functions of

the body are carried on, supplying many of its various wastes, and giving materials for its processes. Indeed, a human being may be almost described as an animated pipe. Water is drunk primarily because it is water, and a certain amount of it must be daily taken into the system. It almost always contains extraneous matter, and this extraneous matter may or may not be harmful. The more nearly drinking water approaches to perfect purity, aside from a certain amount of dissolved gases which impart to it a slight pungency of taste, the better will it fulfil the office of a solvent in the body: the more easily will it be assimilated, the more easily will it pass, or osmose, through the membranes, and the greater will be the amount of solid substances that it will dissolve and eliminate.

Aside from the freedom of a water from dissolved mineral matters, which make it "hard" or impart other properties to it, water may contain certain deleterious matters, which may cause it to become the means of imparting to those who drink it serious functional disorders, and often fatal diseases. It might be thought, in view of the care that is usually exercised in peeling, cleaning, and otherwise carefully preparing before eating vegetables dug out of the earth, as well as those that are not, that considerable care would be exercised in purifying the water that is drunk. But this is not generally the case. The ordinary surface well is a hole dug in the ground, and the water that oozes into it usually contains the dissolved impurities of the soil, putrefying vegetable and animal remains, as well as the pollutions from leaching cess-pools and other similar abominations. So long as it is bright and sparkling it is considered both palatable and safe. But scientific investigation has shown that the sparkle of a water may be due to an excess of dissolved carbonic acid gas, and this condition may be the result of the putrefaction of organic matter; and that even when clear, sparkling, and palatable, water may still be superlatively dirty and deadly.

Biological investigation has established the fact that many diseases, such as typhoid fever, for instance, may be imparted by minute organisms popularly known as "germs," or more scientifically as "microbes." These minute organisms are given off by the patient suffering from the disease; and when they are transmitted to others, which happens in many ways, and very frequently by the agency of water as a conveying medium, they take up their abode in various organs of the human system. There, when the conditions are favorable, they develop and live

at the expense of their host, causing the functional disorders known as disease. Many sad instances of the effects caused by drinking polluted waters could easily be adduced. Water that is free from such pollution, but is simply turbid from suspended matter, as clay and the like, is unpalatable from its repulsive taste and appearance.

During the last few years the subject of water purification has received much attention, and successful methods have been introduced for filtering and purifying water on a large scale. Filtration on a small scale, while successful in many cases, comes, as a rule, under what is at present alleged to be housekeeping, and the success or failure of the method will, therefore, often depend entirely on the operative ability of some crude specimen of domestic home rule, a form of despotic government which has attained an extremely luxuriant growth in this country.

While I do not wish to undervalue any of the excellent small filters now on the market, I desire to explain a simple method by which any housekeeper of average intelligence can make an inexpensive contrivance which will do its work in a way not easily surpassed either in results, efficacy, rapidity, or simplicity by any filter that can be bought. Such a filter can be set up in a short time at any place, and will be found particularly useful when one is away from home; for then special appliances are not always easy to obtain.

My attention was directed to this subject several years ago, and after some experimenting a simple apparatus was devised. Since then I have continued to experiment on this subject, and am more fully convinced than ever of the practical utility and efficiency of the method.

It has been known for many years that the addition of a minute amount of alum to a water containing bicarbonate of lime in solution (and most natural waters contain more or less of this substance) will cause the formation of a gelatinous precipitate. This precipitate entangles and collects the suspended matters and germs, forming coagulated or agglomerated masses, which are easily removed by simple filtration. Waters containing clay or mud which is so fine that a mechanical filter cannot remove it, when treated with a small amount of alum, can be filtered perfectly clear through a coarse filter. The alum thus added is not left in the water, but is removed by the filtration, for its active constituent, the aluminic sulphate, is decomposed and precipitated by the action of the dissolved bicarbonate of lime. This

should be well understood, although if a minute amount of alum were left in the water its effects would not be noticeable, and even if present in larger amounts, it would not be at all dangerous.

The method of filtration is simple in the extreme. An oil bottle, or any long, narrow-necked bottle, serves for the filter. Tie around it a string soaked in kerosene, about half an inch from the bottom, set the string on fire, and hold the bottle bottom up. When the string is burnt out, the bottom of the bottle is thrust into cold water. If properly done, this causes the bottom of the bottle to split off evenly. The rim of the glass should now be burred off a little with a round file to remove any sharp edges that may be left. The bottle is then thoroughly cleaned and placed neck downward in a convenient support, as, for instance, through a hole bored in a shelf, or it may be allowed to stand in a wide-mouthed bottle, resting by its shoulders on the rim of the mouth. A small handful of cotton wool is now thoroughly wetted by squeezing it in water, and shreds of it are dropped into the bottle until a layer about two inches deep has been made. The shreds should be dropped in carefully, so as to distribute them evenly, and not to let them pile up in the middle or at the sides. When enough cotton has been dropped in, a cup or two of water is poured in and the bottle gently tapped. This consolidates the mass and finishes the making of the filter-bed.

The amount of alum needed to coagulate the water sufficiently for filtering need not, as a rule, exceed two grains to the gallon, and in many instances may be less, but in certain cases of very dirty waters, such as that of the Mississippi River, the amount of alum may be increased to four or even six grains per gallon. The alum is best kept in a solution of such a strength that a teaspoonful of it will contain a grain. To save trouble, the following prescription will enable one to get enough of the solution put up at any apothecary's to last for a considerable time :

R	Alum,	.	.	.	.	.	.	.	.	128 gr.
	Aquæ dist.,	.	.	..	.	.	.	.	.	16 oz.
	M. ft. solutio.									

I may add that the expense of this prescription, including the bottle, should not exceed fifteen cents.

The treatment and filtration of the water is best done as follows :

A gallon of water is placed in a clean tin pail and two teaspoonfuls of the alum solution are added. It will save time to make, once for all, scratches on the inside of the pail, showing the height of one, two, or more gallons of water. It is then well stirred and mixed with a clean tin dipper. It is best to keep this pail and dipper for this use alone. They should be kept scrupulously clean, and frequently well scoured with sapolio or a similar kind of soap. After mixing, the water is allowed to stand five or ten minutes, and then poured, by means of the dipper, into the filter. It will run through rapidly if the filter-bed has been properly made, and will be as clear as crystal, and not seldom will form an astonishing contrast with the original water. The first half pint of the water passing through should be rejected. The filtered water may be caught in a pitcher or in any other convenient receptacle. A filter-bed will last a day, but it is not advisable to use it longer. Each day the used filter-bed should be thrown away and a fresh one prepared. The method may, of course, be applied to any of the many filters in use by simply adding to the water to be filtered one or two grains of alum to the gallon. It will be a poor filter, indeed, that will not filter clear after this addition.

Of late, attention has been directed to the latent dangers in ice. It has been found that this apparently harmless and attractive substance may fairly reek with disease germs and filth of all kinds. Unless it is known from whence the ice comes, its use may be more dangerous than the use of water. Ice is sometimes derived from water which no one would think of drinking, as, for instance, from ponds in cemeteries and from rivers in the neighborhood of sewer outlets, and as a result may be indescribably foul. Aside from the danger of germs lurking in ice, there is risk in the indiscreet use of water cooled to an abnormally low temperature, since functional disorders are often caused by the drinking of very cold water. No water is so refreshing as that of a mountain spring, and one reason of this is that its temperature is just right. It is well to take hints that are given by nature, and the hint that the best temperature of drinking water is about fifty degrees Fahrenheit is a good one, and worth following.

I would suggest—and I am sure that every one who tries it will be more than satisfied—that the filtered water be caught in stoppered carafes, or, what is just as good, carefully cleaned sherry bottles stoppered with new, clean corks, and that these bottles, filled with water and carefully stoppered, be placed in the refrig-

erator for several hours. By putting half a dozen such bottles filled with water in the refrigerator and replacing them with others as they are taken out, a supply of clean, filtered water of a satisfactory and safe degree of coolness may be kept continually on hand.

The use of this simple method of purification of water will, I am certain, prevent many a case of sickness and not a few deaths, and it is so simple, cheap, and efficacious that any one can make a success of it.—Reprinted from the *Scientific American*.

NEW METHOD OF "DOCTORING" MILK.

It has been discovered that milkmen in Bordeaux, France, were in the habit of using certain yellow powders to preserve their milk. M. Denigès succeeded in obtaining possession of three samples of this powder and subjected them to chemical analysis. This analysis showed that two of the powders were composed wholly of neutral chromate of potash, that the third was a mixture of one part of bichromate of potash and two parts of neutral chromate, and that the suspected milk had been adulterated with the latter in the proportion of 0.30 gm. to the liter (5 grains to the quart). The alkaline chromates are powerful antiseptics, capable, even in small quantities, of retarding lactic fermentation if not of stopping it completely. But because of the pernicious action of these salts on the organism they ought to be completely excluded from food substances, and particularly from milk, of which many young children drink relatively large quantities. These chromate powders are sold in packages of 2 gm. (30 grains), each of which should suffice to preserve about fifty quarts of milk, which would correspond to 0.04 gm. (0.6 grain) of antiseptic to the quart, evidently a minimum proportion. But it is likely that the milkmen will be induced to augment this quantity, either because it is insufficient to preserve the milk during the high temperatures of summer, or in order to restore the color of the liquid, due normally to hemolutein, a yellow pigment, when it has been lessened by skimming the cream, adding water, or by inferiority of quality, and thus to cause a mediocre product to pass for a milk of greater value." Knowledge travels rapidly, and even American milkmen may not be above such practices. Let us hope that the inspector may be as canny.—*Medical News*.



ISAAC HENRY BARBER, M.D.

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

THE MECHANICS OF FLATFOOT.

BY JOHN C. SCHAPPS, M.D.,

Brooklyn, N. Y..

Orthopedic Surgeon to St. Mary's Hospital.

Read before the Kings Co. Medical Society, March 17, 1896.

Inability of the feet to withstand the strain put upon them is a common cause of suffering and even helplessness. The condition, however, is as a rule a curable one, and if recognized early may be quickly relieved. Although in its incipency it is usually accompanied by sufficient pain to attract attention to itself, it is then frequently mistaken for rheumatism. When it is the result of or is complicated with rheumatic inflammation of the small joints of the foot and of the tendon sheaths, the same mechanical conditions are to be considered as in similar cases. Fully developed, it is characterized by a flattening of the arch of the foot and it has consequently received the name Flatfoot.

Whitman* in his admirable paper containing an analysis of one thousand cases appropriately applies to the incipient form the term Weak-foot. And Lovett and Danet† in describing cases in which the insufficiency is shown in the abnormal relation of the foot to the leg rather than in the foot itself, use the expression Pronated-foot. In each case the causative condition is the same.

In order to understand clearly this derangement, it is necessary to consider the mechanical principles embodied in the foot as a support and as an organ of locomotion. For the most careful study that has yet been made of the mechanism of the foot we are indebted to Thos. H. Ellis‡ of Gloucester, Scotland, and much of what follows concerning this part of the subject is taken from or has been suggested by his valuable and interesting work "The Human Foot."

In standing with the feet side by side the hollows on the inner sides taken together constitute a dome. The weight of the body is transmitted from the legs to the top of this dome, and thence backward, outward and forward to its edge which rests upon the floor. The dome is longer antero-posteriorly than laterally, and from its summit it extends further forward than backward. It would be a very strong support were it not for the fact that to meet the purpose of locomotion it is divided, and each half has to bear not only its share of the weight without the bracing furnished by the other, but each has, in walking, to support the entire body-weight. This "hemi-dome" constitutes the arch of the foot. On the outer side, in the skeleton of a perfectly formed foot, the bony arch does not reach the plane of the front and back ends. The gap is filled by the soft tissues so that the outer side of the sole in standing is supported like the front and back on the floor. So far as the skeleton is concerned the key-stone of the arch rests on a narrow, short, almost vertical support posteriorly, the os calcis, and a long, expanded, almost horizontal one made up principally of the metatarsal bones and phalanges, anteriorly. The forward expansion is in an inward as well as in an outward direction from the summit of the arch so that when a pair of normal feet are placed side by side the concavities on their inner sides viewed from above appear like a narrow ellipse with its greatest width opposite the heads of the astragali. The backbone or highest curve of the arch is formed

* *The New York Medical Journal*, November 9 and 16, 1895.

† *The New York Medical Journal*, March 7, 1896.

‡ "Wood's Medical and Surgical Monographs," vol. vi, No. 1. Wm. Wood & Co., N. Y., April, 1890

by the scaphoid internal cuneiform and metatarsal bone of the great-toe in a line known as Meyer's line extending from the astragalus forward, downward, and slightly inward toward the median plane of the body. On rising to tip-toe the proximal phalanx is included in the series. In standing the weight is borne principally upon the posterior pillar of the arch and the bones in the line of the great-toe may be regarded as a prop to replace the other half of the dome and to keep the astragalus backward, upward, and outward between the tibia and os calcis. The astragalus bears more to the inner or arched than to the outer or supported side of the foot. In walking the weight is borne successively on the posterior pillar of the arch, on both pillars and on the anterior pillar. While the inner side is, when standing on the whole foot, the weaker, the massive great-toe and the strong continuation upward show it to be, when the weight is thrown on the front of the foot, much the stronger side. In the concavity of this arch are lodged the blood-vessels, nerves, and some of the muscles necessary for the nutrition and use of the foot.

We will successively consider the structures which retain the bones in their relative positions and so maintain the concavity of the arch and the relations of the leg to the foot; the conditions which lead to a yielding of these structures; the effects of such yielding; and the means by which it can be prevented and cured.

The structures which support the bony arch and the leg on it are the ligaments, including the plantar fascia, which pass from bone to bone on the under side of the foot, and the muscles and tendons which cross the arch from front to back, and extend up the leg. The muscles are of much more importance than the ligaments. In fact the integrity of the ligaments is dependent upon muscular activity. The common anatomical teaching has been that muscles act from a fixed origin on a movable insertion; and, as regards the foot in particular, that the deep muscles of the calf have their origin at the leg and act to move the toes and foot. Although they undoubtedly may do so this is certainly not their purpose, for when the foot is used for standing or walking, the toes and the front of the foot are pressed upon the floor and form the fixed end, from which the tendons pass backward to the malleoli where they turn upward and are connected with the muscles attached to the back of the leg. Those three passing under the internal malleolus are much the stronger. By contraction of the muscles the distance between the calf and

the toes is reduced. And in accordance with the general law that the distance between two points is measured on the straight line which joins them, the tendons assume a straighter course and in so doing raise the heel and with it the entire body. As the distal ends of the tendons at the toes remain fixed the malleoli and back part of the foot are drawn forward as well as upward and under the weight of the body, slide down on these as on slings toward the toes. Muscular action is, therefore, not from the so-called origins upon the so-called insertions nor in fact altogether from either end upon the other but mainly from both ends upon the middle. The tendons act as tie rods or stringers to the arch. This sling-like action of the tendons, which I have never seen described, maintains the arch of the foot and is a very important part of the provision to diminish the shock of walking or jumping. The tendon of the flexor longus pollicis (Fig. 1.)



FIG. 1.—1.1. Flexor longus pollicis. 2. Tibialis Posticus. 3. Muscles acting on tendo Achillis. From "The Human Foot," by T. G. Ellis. By courtesy of Messrs. Wm. Wood & Co., N. Y.

has its origin in the distal phalanx of the great-toe and may be regarded as the principal bow-string. In rising on the toes it also raises the metatarso-phalangeal articulation and the bones here as well as at the heel ride as it were on a tight-rope. (Fig. 2.) A beautiful part of its mechanism is that its tendon is

crossed by that of the flexor longus digitorum not shown in the cut, which, taking its purchase at the other toes, draws the tendon of the flexor longus pollicis upward and so increases its tension, just as sailors in getting up sail take a turn around a cleat and pull laterally or "sag" on the tightly drawn halliard. The tendon of the tibialis posticus has its origin just in front of and passes under and supports in a similar sling the head of the astragalus or keystone, holding it outward as well as upward. These three muscles, besides maintaining the arch of the foot, as



FIG. 2.—The references are the same as in Fig. 1.—From "The Human Foot," by T. G. Ellis. By courtesy of Messrs. Wm. Wood & Co., N. Y.

shown in Fig. 2, support the internal malleolus and so resist the tendency of the foot to roll over or pronate under the body weight. The small muscles of the plantar region by direct traction across the arch also take part in its preservation. Their utility, however, in fact, the space for their functional existence, depends upon the activity of the larger muscles situated in the leg. The tibialis anticus, whose muscular origin is on the front of the leg, assists by traction on the top and inner side of the arch, and if its action be continued, its tendon pulls forward and upward on the anterior annular ligament of the ankle and helps to sustain and raise the heel. It can be felt in a state of firm

contraction in standing on the toes. In a similar manner the extensor muscles situated on the front of the leg and whose tendons run under the annular ligament and down to the toes, as their upper ends remain fixed, draw through this ligament upon the heel. When standing on the front of the foot the back part is partly suspended by this ligament upon the tendons of the extensors and partly supported on those of the flexors, while the body-weight causes it to slide downward. The force of gravity thus helps to produce the concavity of the arch and to relieve the ligaments and small muscles of the sole. It is a common anatomical error that rising on the toes is accomplished by the upward traction of the calf muscles exerted on the heel. If this were the only force used, the arch of the foot would under the weight of the body be first obliterated, then reversed. The concavity of the arch is, as may easily be seen, increased when the heel is raised, and, though the tendo Achillis muscles take part in it, it has been proved that this action can be accomplished when they are paralyzed.

To perform their functions as tie-rods of the arch the muscles must be strong and must act at a mechanical advantage. Their strength depends upon the following physiological principles :

1. Alternate contraction and rest of a muscle develop it. Continued action or relaxation or stretching impairs it.

2. Healthy muscles at rest maintain a condition of passive contraction. They are "taut." This is well shown in their retraction when cut through, as in an amputation.

3. Muscular inactivity and atrophy result from disability of the parts acted on by the muscles.

4. Alternate tension and relaxation of a ligament develop it. Continued tension or continued relaxation impairs it.

By the proper use of the muscles in standing and walking their development and therefore their efficient passive contraction are attained. The ligaments, especially those of the inner ankle and the plantar fascia take the strain when the muscles are relaxed and particularly serve as a check upon any sudden separation of the ends of the arch or turning of the foot such as might come from jumping. When the muscles contract the ligaments are relaxed, and when the muscles are relaxed the ligaments become tense. Thus not only do the muscles and ligaments relieve each other, but their reciprocal action develops both. If the muscles are not sufficiently strong, too much and too constant a strain is brought to bear on the ligaments and they

yield. If the ligaments be suddenly or gradually stretched all the work comes on the muscles and they yield. The bones adapt themselves to circumstances and especially in the child, take their shape from pressure on each other.

In order that the muscles may act at a mechanical advantage, the front part of the foot must be capable of sustaining the weight of the entire body and at the same time afford a firm purchase for muscular action sufficiently powerful to move it. And mechanical insufficiency of the foot may result from such disabilities or deformities or sensitive conditions of the toes as an ingrowing nail, hallus valgus, hammer-toe, or corns, which not only diminish the ability of the part to bear weight and stand strain, but also tend to cause eversion of the feet so that the toes are moved out of the way of pressure. This position of the feet is a very important consideration. The foot, in both standing and walking, evidently should be used in such a manner that both its supporting or passive, and moving or active elements be kept in the line of stress. In standing, if the inner borders of the feet are parallel, the prop formed by the bones continued from the great-toe is directed upward, backward, and slightly outward, and so antagonizes the tendency which the crown of the arch, by reason of the removal of the opposite hemi-dome, has to fall downward and inward. The lower end of the prop is kept from sliding forward by the flexor longus pollicis and the muscles acting in concert with it. When the feet are everted the lower end of the prop is taken partly away and the astragalus and inner malleolus become lower and more prominent as may be observed in any flexible feet. In walking the balls of the feet are the last to leave the ground and the body weight may be regarded as transferred from the anterior pillar of one foot to that of the other. In running this is actually the case. The heels do not touch the ground. The weight is thus moved at each step from foot to foot, forward and inward. The action is performed largely by the flexor longus pollicis, the strain borne should be on the back bone of the arch in the line of the great-toe or Myer's line, and the plane of these two elements should be that in which the body-weight is moved. By everting the feet so that the weight is not passed over the great-toe but over some point inside of it, not only are these structures not used at a mechanical advantage but the force of gravity tends to press the foot still further outward, and when the other foot is raised the weight is borne on the inner or unsupported side of the arch, and the inner malleolus is not

upheld by the tendons, whose fixed ends are taken away. There are other reasons why in standing and walking eversion of the feet is not physiological, but the limits of this paper will not permit me to go into them, and they are not strictly necessary to the consideration of the subject.*

Besides disability and habitual malposition of the front of the foot a common cause of yielding of the structures, which support the arch, is simple inability of the muscles to meet the strain put upon them, and to keep the backbone of the arch in its proper position. It may be that the burden is abnormally great as in the case of stout people who take little exercise or that, as in the young so poorly nourished who carry heavy burdens, the muscles are intrinsically weak. Constant standing when the muscles are not intermittently used, or walking on smooth floors where the foot is very slightly lifted, and thus the muscles not sufficiently exercised and the ligaments not sufficiently relaxed, are very productive of flatfoot. Tight shoes or stockings which impede movements and circulation are causative and would be more commonly so were it not for the fact that the muscles principally concerned are located in the calf, out of harm's way. The modern-pointed shoe, which binds the toes together and deflects the great-toe outward, produces much deformity and disability, but the narrow-toed stocking is probably a more common cause of injury. By taking a tracing around a foot when bare and when covered with one drawing only moderately across the toes, it will be seen what a deforming power the stocking has. Rheumatism and gout interfere with the movements of the bones and the tendons in their sheaths. And rheumatic flatfoot from its tenderness, muscular rigidity, and adhesions is the most serious form. In young children rickets may cause softening and weakening of bones, muscles, and ligaments, and, in cases of knock-knee, turn the sole outward, and thus take away the support of the outer side of the foot, and also throw the weight more directly on the inner side. Paralysis of the muscles or over-strain of the ligaments as by a sprain are obvious causes.

The first effect of a yielding of the muscular tie-rods is to permit a stretching of the ligaments. This is characterized by pain across the sole of the foot and at the inner side. There is also frequently aching of the muscles in the leg. As the ligaments give way those edges of the bones which are directed toward the concavity of the arch or the inner ankle are separated, while the

* Vide Ellis, *Op. Cit.*

edges directed away from the arch or at the outer ankle are crowded together. The result of this pressure is pain on the outside and dorsum of the foot. The pain is present at first only during the use of the parts. In looking for the results of structural weakness we find that in the early stage, even after prolonged standing or walking, the symptoms are largely subjective, the foot often, on inspection, reveals little or nothing abnormal. Though even then usually movement of the medio-tarsal joint is painful and limited. Sometimes the patient will stand upon the outer sides of the feet to relieve the strain on the inner and to protect the arch and the sight of a person awkwardly hobbling along with the feet in this position is highly diagnostic of painful flatfoot. As a rule, however, while examination of the foot when raised from the floor does not disclose its condition, when the patient stands, a prominence of the inner maleolus or lowering of the arch is, upon careful inspection, perceptible, and either the contact surface of the sole is broader or the tendons may be felt in state of extreme tension. When the yielding is in a greater degree, the arch sinks, the astragalus is dropped downward and inward or (as Dane expresses it) the calcis rolls the astragalus off its back. The ellipse between the feet is encroached upon and the scaphoid or proximal end of the backbone of the arch is displaced inward and with the astragalus head forms a prominence on the inner side of the foot. From it the great-toe line is directed forward or forward and outward or everted from the middle of the foot instead of forward and inward, as in the healthy foot. Eversion of the toes is a result as well as a cause of muscular weakness. The posterior part of the arch is also diverted outward, the inner maleolus becomes prominent and the shoe-heel is worn on the inner side. When the bones are so displaced that the soft tissues in the sole are compressed, pain and weakness result and the bearing of all the bones of the tarsus are changed. After a while, in a severe case, the arch is obliterated, the inner border of the feet becomes convex while inflammatory thickening and adhesions occur, the bones from periostitis and pressure are altered in shape, and the result is great disability and suffering.

Mild cases of weak-feet are liable, on account of pain, to be mistaken for simple rheumatism. The history and the fact that the pain is confined to the foot or feet and occurs principally or only on standing and an inspection of the attitude, gait, and the condition of the toes make a correct diagnosis clear. When

actual flattening exists the condition is of course apparent if looked for. Occasionally from inflammatory thickening, rigidity, and tenderness, it may be difficult to differentiate between it and tarsal disease. And it is possible that flatfoot may play some part in the development of tuberculous osteitis. Tuberculous disease, however, affects only one foot as a rule and is more common in children than in adults, while the reverse is true of flatfoot. In the former there is some pain at all times while in flatfoot the pain is generally only in walking. Osteitis presents usually much more tenderness, thickening, and rigidity, and has the appearance of a more serious condition.

TREATMENT.

In the treatment of flatfoot the actual deformity in the foot, both when raised from the floor and when bearing weight, the amount of pain and disability in standing and walking, the inflammatory thickening and the pain and rigidity on manipulation are all to be taken into account. It is important to distinguish between rigidity due to present inflammation and that due to fibrous adhesion from past inflammation. Such causative conditions as rheumatism, rachitic weakness of the foot, knock-knee, paralysis, and deformities and disabilities of the toes, improper covering and use of the feet should, of course, receive due attention. As regards the feet themselves, the objects of treatment are :

1. To restore the bones to their proper relations.
2. To restore the muscles to their efficient functional activity.

Clinically, it is not so much the degree of deformity as the amount and nature of resistance to replacement that determine the severity of the case. When in an old case the deformity and rigidity are marked and manipulation is not particularly painful, forcible restoration under an anesthetic should be done and the feet immobilized in plaster-of-Paris in an over-corrected position for five or six weeks. The plaster should extend from the toes well up on the calf. On the other hand when any considerable degree of pain and muscular spasm are elicited by attempts at correction, rest is indicated and it is better not to be too violent. By encasing the feet in plaster at the position best possible without much pain, after two or three weeks it will generally be found that they have yielded so that a further correction is possible. Much inflammatory thickening will also have disappeared, and should force be necessary to break up adhesions it can then be more safely employed. When rheumatism is present, harsh treat-

ment is exceedingly liable to kindle it into activity and produce more adhesions than exist. Besides securing rest from motion the plaster keeps the patient off the feet, and this particularly in rheumatic cases is very desirable. Many flat feet are produced by allowing patients convalescing from this disease to walk before the parts of the foot can be moved on each other and natural muscular support to the tarsal arch be thus maintained. By restoration of the bones to their normal bearings the overstretched ligaments are relaxed, and not only is pain both from abnormal bone pressure and ligamentous tension relieved, but motion between the bones, and therefore muscular development become possible. In very painful cases of not long standing it is surprising what a few week's rest in plaster-of-Paris, or even without it will do. Those cases which, though they have on standing a considerable degree of deformity and pain, are so yielding as to permit the foot to be easily put in a correct position do not require even that interruption. For them and for those that have undergone the preliminary treatment immersion several times daily in hot-water with massage is very beneficial.

When pain is relieved and flexibility restored, the foot is by no means cured. Before the muscles can recover their tonicity, and by their vigorous and intermittent action develop the liga-

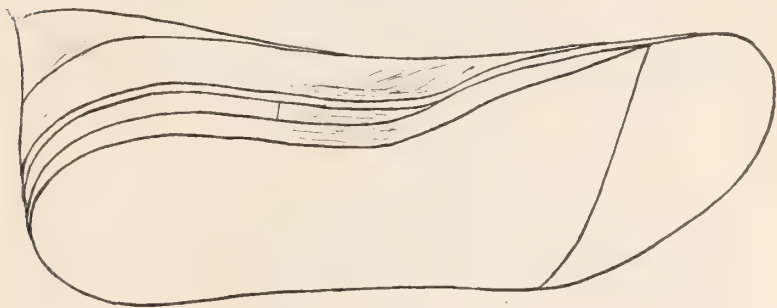


FIG. 3.—Thomas' Shoe.

ments it is necessary that the bones upon which they act shall have been kept in their normal bearings. Mechanical assistance is necessary before the natural muscular supports can resume their functions. Sometimes a very slight aid, such as the method of the late Hugh Owen Thomas, of Liverpool, that of building up the inner side of the shoe so as to throw the weight of the body on the outer side and correct the pronation permits sufficient curve to return. The hollow in front of the shoe-heel

should be filled or the heel removed and a wedge of leather, extending from the posterior end as far forward on the inner side as the ball of the great-toe and on the outer to that of the small-toe be added. The leather should be from one-quarter to one-half inch thick on the inner side and slope down to nothing on the outer. It is important that it should not be extended further forward than the limits given, that it cover the whole width of the sole and that it be an actual wedge and not a flat piece of leather with one edge thinned (Fig. 3). The muscular forces acting in the line of the flexor longus pollicis must pull across a curve and not parallel to a straight line of bones. The greater the curve the greater the effect does power applied along its cord have to increase it and less the flattening power of weight applied at its crown. Traction along a line of bones serves simply to crowd them together in their abnormal bearings. So that when the arch does not return to a sufficient degree, upward pressure applied against the under side is necessary. Pads of cork, felt or leather have been used but they are clumsy and not rigid enough. The arched steel sole, (Fig. 4), the name of whose inventor I do not know,

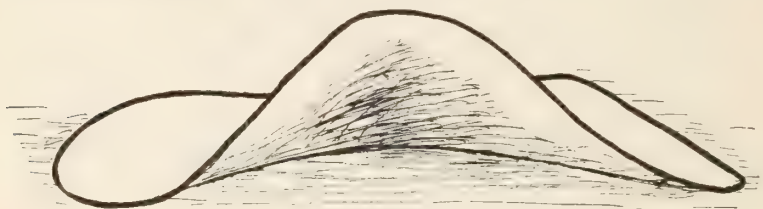


FIG. 4.—Arched Steel Sole.

has proved of the greatest value in these cases. There are a few workmen who can hammer them out according to given lines. The data required are the exact shape of the plate, of which I shall speak later, and the location and shape of the transverse curve from the top of the plate on the inner side of the foot across underneath to the outer side. (Fig. 5.) This is traced from a strip of lead. The plate will even then have to be modified to fit. Roberts' steel sole (Fig. 6), which has deep cuts on the inner side is easier to alter. It has the disadvantage that the cuts diminish the supporting power and the tongues of steel between them are liable to break. The difficulties in the way of providing mechanical support have prevented the general treatment in this very common condition. It is the principal object of this paper to present a method of making arched steel-soles

which renders them available to anyone who can handle a few common tools. It has been in use at St. Mary's Hospital, Brooklyn, and in private practice for six years, and I have yet to find a case that is sufficiently flexible to permit of any support to the

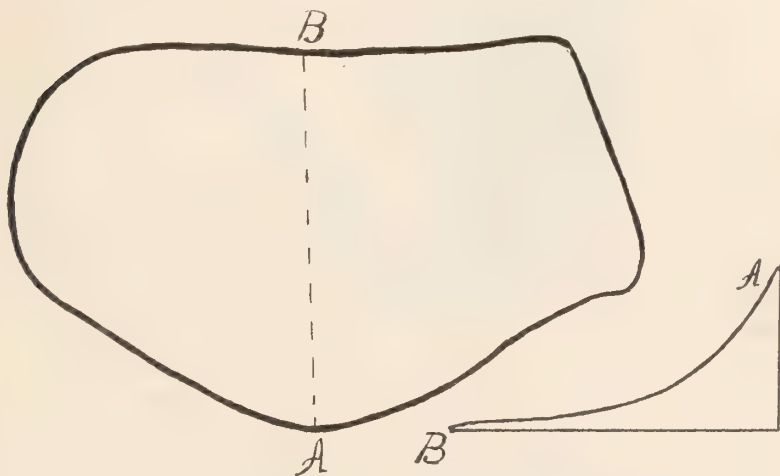


FIG. 5.—Patterns for making steel sole by hand.

hollow of the foot to which the soles thus made were not applicable.

The method originated in this way: a steel sole was hammered out by hand to correspond to the arch of a well-developed adult foot. It was observed that the anterior and posterior halves

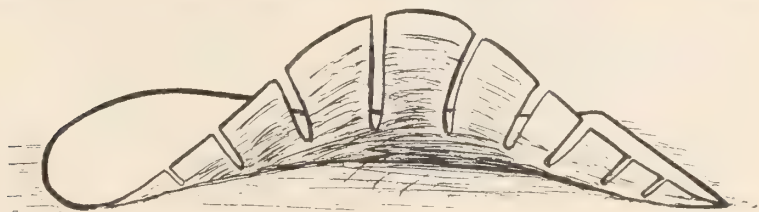


FIG. 6.—Roberts' Sole.

of the arch were not very different. The sole-plate was modified so as to make these the same, and the arch was then somewhat like a portion of the convex surface of a cone with the apex directed toward the inner side of the sole and the base the outer side of the foot. The lines running from the base to the apex were curved, and lost themselves in the plane on which the patient stood. From this plate plaster casts and from them

iron dies were made. By means of them any machinist can make the steel soles. The lower die (Fig. 7), is placed on an anvil, a

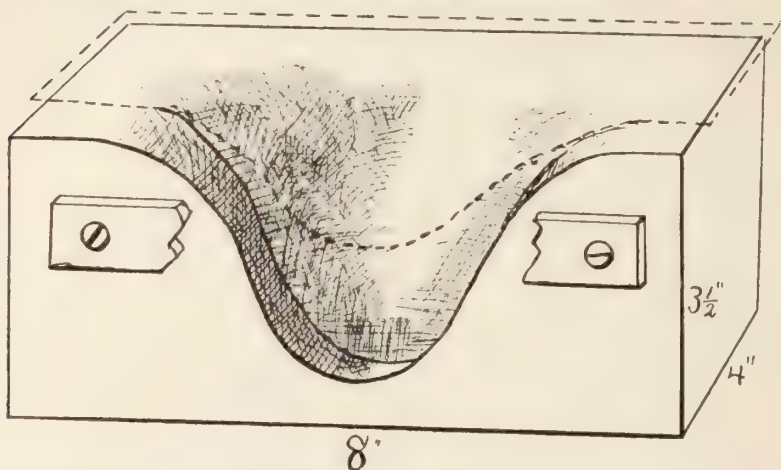


FIG. 7.—Lower Die. The dotted line shows position of steel to be stamped.

piece of soft sheet steel, No. 18 or 20, Stub's gauge, cut to the desired shape (Fig. 8), is heated, slightly bent by a blow from a

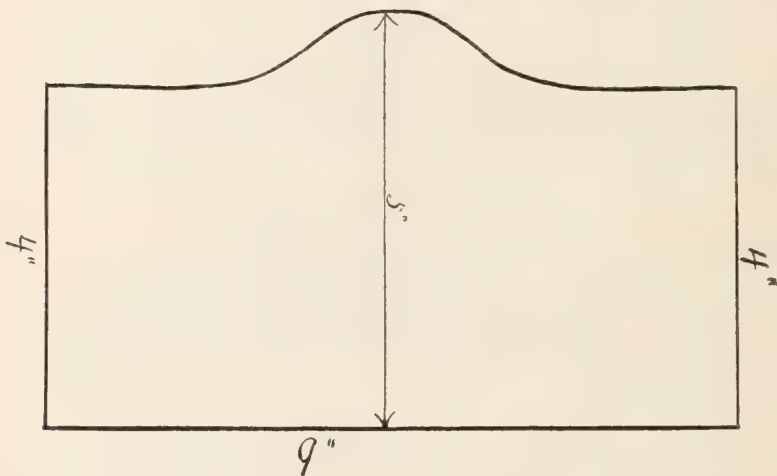


FIG. 8.—Steel Blank. If the plates are to be used for the Whitman soles, the curved part must be higher and fuller.

hammer and laid upon the die, as shown in the dotted line. The upper die (Figs. 9a and b) is placed on top of that and by a few strokes of a five-pound hammer the steel is made to assume the arched shape desired. The plate thus made can be used for a

right or left foot, large or small, but there is less waste by having them cut rights and lefts at the beginning.* The soles, which

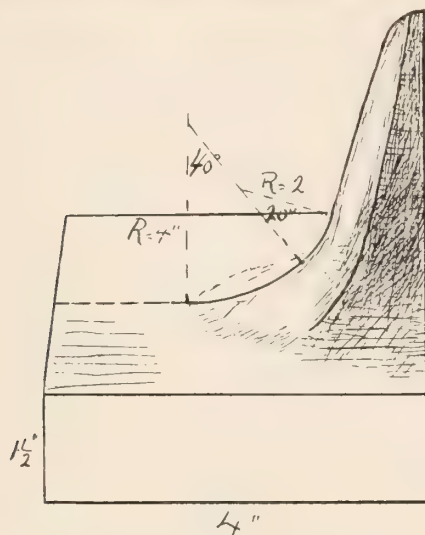


FIG. 9a.—Side view of upper die.

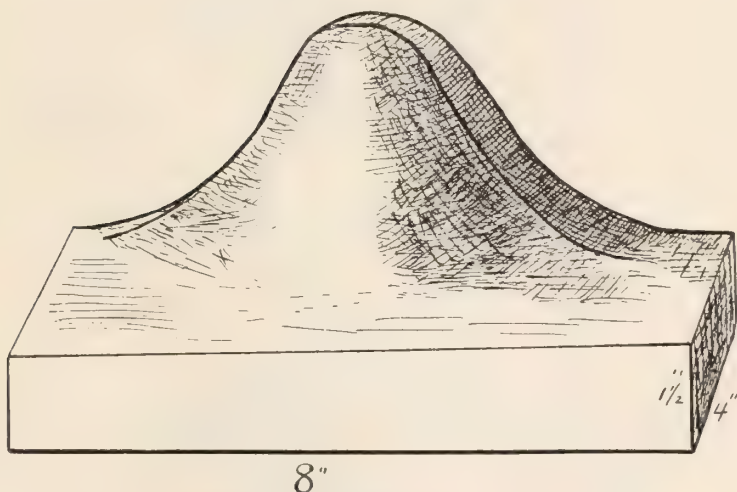


FIG. 9b.—Front view of upper die.

I present, were all made from the same dies. To fit one, the patient is made to stand on the plate so that the arch of the foot is pressed upward as far as is bearable. If the arch is low or the

* It will afford me much pleasure to have dies cast or blanks made in the hospital shop for any one wishing to use this method.

foot small, the conical surface will go but a short distance under it. If the arch is roomy it will go deeper. The contour of the back and sides of the foot is, by means of the end of a file or a marker, scratched in a dotted line on the plate, and marks are made to indicate how far forward the support is to extend. This should be just posterior to the heads of the metatarsal bones, so that when the weight is borne on the front of the foot, the edge of the plate is not pressed on. This outline must be corrected by making it considerably narrower, especially in front, on account of the shoe, and in a small foot when the steel inclines away from the inner side, by extending it in that direction so as to have metal enough to be bent up against the foot. To make these corrections another contour is taken on card-board or paper, trimmed to fit the sole of the shoe at the front, outer side and back, and wide enough at the arch to come well up on the inner side of the foot. The outline of this pattern is marked on the plate at the proper place, which is determined by the first or dotted line. Fig. 10 shows the marks for the left foot of a large

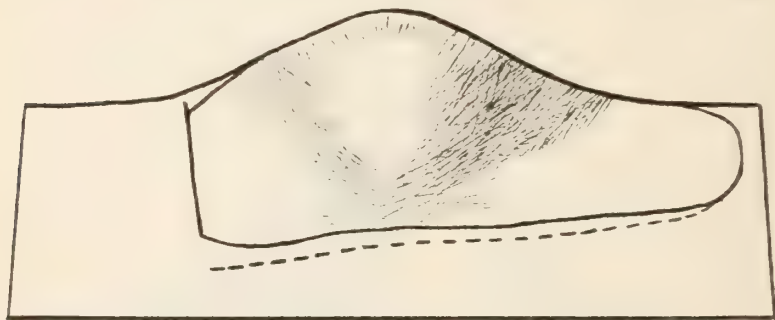


FIG. 10.—Stamped Plate marked for the left foot of large man.

man, and Fig. 11 those of the right foot of a boy. It is a common

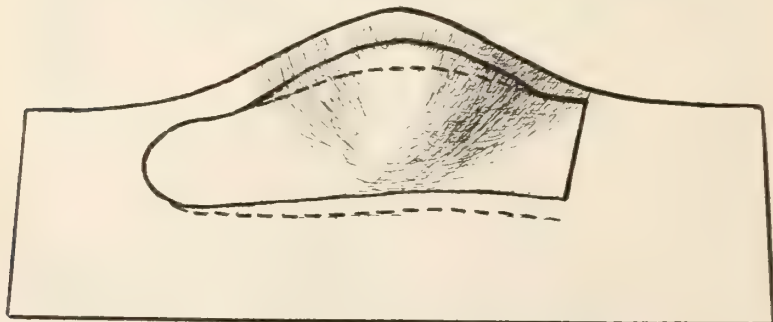


FIG. 11.—Plate marked for right foot of boy.

error to make the sole too wide. The cutting can be done with a pair of tinsmith's shears about twelve inches long. Unless the shoe be a very snug fit the finished sole can be worn inside the one which the patient had been using, and, what is very convenient, can be changed from shoe to shoe. The curved line representing the inner edge of the arch of the plate should be located just below the scaphoid and head of the astragalus. I do not believe it necessary nor in many cases advisable to extend this flange higher up the inner side of the foot for the reasons that as the arch yields to pressure upward on the under side of the head of the astragalus and the scaphoid, these bones must necessarily be carried outward toward the median line of the foot, and because the under side is the better padded to bear pressure. The inner side of the astragalus and scaphoid are subcutaneous and pressure outward sufficiently great to affect their position is too apt to be painful. Having cut the sole the desired size and smoothed the edge by means of a file, some modification of shape is necessary. The flat portion at the back should be bent so as to slope from the middle of the arch slightly downward, and the front end should also receive a downward curve extending backward for three-quarters of an inch to an inch. It is very necessary that this edge be directed away from the foot. The curved inner edge or flange of the plate also requires careful treatment. By hammering it over the edge of an anvil and following the curve around it may be inclined inward or outward. It should be nearly vertical as the patient stands on the plate. If it project outward there is danger of cutting the shoe and support is taken away from the foot; if inward it will hurt the foot. The sole is now applied and the shoe put on. Figs. 12 and 13 show its position. It is, of course, worn outside of the stocking. It is frequently found that the edge of the plate can be felt projecting against the leather, especially at the outer side in front and the inner side of the arch. This shows that the plate is too broad, and to remedy this a strip is cut from the outer side. Should this not permit the edge of the steel arch to be held well against the inner side of the foot the inner edge of the plate may be bent a little more. Should the steel arch be too high under the sole it may be reduced by a hammer or squeezing it in a vice. But it is to be borne in mind that here is the place at which pressure is to be made, and if the discomfort produced is only slight it is better to have the patient endure it for a few days in the hope that, as the muscles resume their functions, the foot will yield. By ques-

tioning the patient and feeling the outside of the shoe the modifications needed are readily determined, and may frequently be made by a single blow with a hammer or twist with the hooks in less time than it takes to tell it. The shoe, preferably a laced one, should be firm enough to keep the foot well on the plate and not to let it slide off. By building up the sole and heel on the inner side as described, the weight is transferred in part to the outer side, and if the lateral deviation of the ankle be marked it is better to correct it in this way than to attempt it by pressure of the steel-plate against the inside of the foot. The Whitman

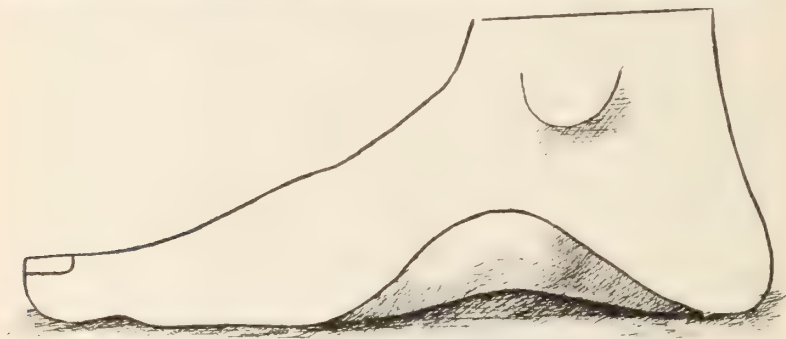


FIG. 12.—Sole plate applied.

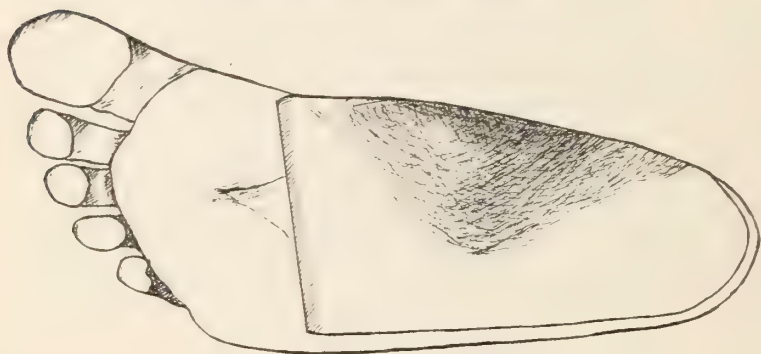


FIG. 13.—Sole plate applied.

braces may easily be made from the plates. This obviates the use of a plaster-of-Paris cast and an iron form for each foot.

The sole having been made apparently to fit, should be worn for a few days to ascertain whether any further modifications are necessary. If it causes discomfort or fails to relieve existing pain something is wrong. It is well to have it wiped dry two or three times daily and oiled with kerosene to prevent rusting. A satis-

factory shape having been secured, it must be covered. Leather, paints of all kinds, Japaning, nickle-plating and galvanizing have all proven useless against perspiration, which sooner or later rusts the sole through. A layer of rubber-plaster and over it one of thin leather will last quite a while, but it also eventually succumbs. In December, 1890, I took one to a surgical instrument factory and had it covered with hard-rubber vulcanized on. The result though slightly clumsy answered its purpose. Since that time the workmen have acquired more skill, until now the soles are beautifully covered, and if the rubber-cover is not worn through by a nail in the shoe nor cracked by a sudden strain such as would be produced by jumping, will last indefinitely. Hard rubber can be put on by any manufacturer of that material. The edge of the plate should first be thinned and the rubber applied should be about twenty gauge.

The objects of the steel-sole should be clearly understood. It is not a forcible restorer of the arch, though a succession of soles may sometimes be employed gradually to raise one somewhat depressed. When, for instance, the astragalus is actually resting on the floor it is useless to attempt to force it back into position against the body-weight. An anesthetic should be employed and the arch restored, and the overstretched ligaments and muscles allowed to recover their tone. The steel-sole is simply a support to hold the bones in proper position, both when the muscles are acting on them and when they are at rest. The criticism has been made that it supplants muscular activity and leads to loss of power. This is obviously not the case, for when the muscles are efficiently at work in raising the heel, the sole is lifted away from the steel. It has also been objected that the arch of the plate tends to stretch upward the supporting structures of the sole and so relax them. The fact is that the tendon of the flexor longus pollicis, the bow-string, is itself pulled up by the action of the flexor longus digitorum and plantar structures of a healthy foot are never stretched straight across the arch. But the most conclusive proof that the steel sole does not diminish the vigor of the natural supports is, that after a while the hollow foot will be found to have drawn itself away from the plate, which can in most cases be eventually dispensed with. This is assuming that the natural muscular supports become so developed as to maintain, when at rest, a sufficient degree of tonicity or "passive contraction." To attain this, the ultimate end, it is necessary that any disability of the front end of the foot such as

ingrowing-nails, bunion, hallus valgus, hammer-toe which renders it incapable of bearing the body-weight and affording a base for muscular action be remedied. Abbe and Gibney have cured flatfoot by curing ingrown nails. That the muscles be capable of sufficient exercise, and that there be no rheumatism or gout to prevent the movement of joint surfaces against each other or tendons in their sheaths. As regards the hygiene of the foot, it must be properly clad, so that the great-toe is not everted, and all the toes are free to move, and in both standing and walking be directed straight forward, so that the truss formed by the bones is in the line of the great-toe and the muscles acting on them be kept in the line of the stress. The use of hot-water and massage to relieve pain and promote flexibility are of great value, but the object of all these measures, including the use of the steel-support is the restoration of muscular activity. And exercises are the most important part of the treatment of every case, which is not at the time immobilized or too painful. Rising on the toes, turning the heels outward and descending, without shoes and in stockings wide across the toes should be performed for several minutes several times daily. Also, eversion and supination of the foot, both by its own muscles and by the hand should be done. "Exercise every two hours until the muscles ache" is a good rule to commence with. There is in every case of static flatfoot or "weak ankles" a time at which, merely by removal of the disabling cause and proper exercise, it can be cured. As a rule, however, we do not see the cases until they have advanced so far that mechanical support plays a necessary part in the treatment. And nothing can be more gratifying than the immediate and complete relief which the steel arch affords.

Finally, when from paralysis, age, or other permanent conditions the muscles are incapable of resuming their functions, the arched steel-plate may be worn indefinitely, and will be found to give assistance and comfort.

DISCUSSION.

Dr. John M. Clayland: At the present time the knowledge of the conditions of flatfoot is pretty well established, and we have had this evening a very lucid description of the breaking down of the arch, with the abduction and outward rotation of the forward part of the foot at the astragalo-scapoid joint. That exercise is an important factor in the treatment of this is evident from the fact that from some experiments and measurements

taken by Dane, of Boston, it was found that babies instead of being flat-footed, as was formerly supposed to be the case, have arched feet, and this arch only begins to break down when the child begins to walk—when from a year to eighteen months of age. At this time we find that with very few exceptions the arch of the foot breaks down. The exceptions are nearly all light females; consequently we see that it is the weight of the body in walking, and especially in standing, that breaks down the arch, and the fact that after the child gets to be three or four years old and its muscles become stronger, the arch builds up, gives us a very good pointer as to how to overcome flatfoot when it develops later on in life.

The exercises I think are very important; more so than any mechanical treatment. The mechanical treatment can simply be a help and a support during the time, while the person is developing his muscles and contracting his ligaments and getting the bones back into proper position.

There is one point I do not think the doctor brought out very plainly—about the rotation of the os calcis. In addition to the rotation of the forward part of the foot, we have also at the ankle joint an abduction. Now this, of course, brings the weight of the body more over the inner arch of the foot; this is corrected largely by the Thomas shoe, which he has shown. In order to return the forward part of the foot to its natural position, Dr. Whitman, of New York, has recommended the use of the Waukenphast shoe, which has a bend in it, to overcome the abduction of the front part of the foot, turning the toes inward and requiring that the shoe should fit snugly. I personally know what the pains of flatfoot are, and I know how much ease it gives to put the weight of the body on the outer side of the foot. The Thomas shoe built up does that, but if we adduct the front part of the foot we strengthen the arch and put it at its best position.

Some Canadian, I have forgotten his name, presented to the American Orthopedic Society, in New York, three or four years ago, a last which he had made. He simply took an ordinary shoemaker's last and cut a wedge out with the base on the inner side and bringing the anterior part of the foot over, making practically the same shaped foot as the Waukenphast shoe.

In regard to putting the foot up in plaster, I think another plan brought out by Dr. Whitman is very important. The tendency is to put the foot up at a right angle, or to force up the arch with the foot in the position of flexion. I think it is anatom-

ically shown that when you extend the foot you also adduct it, and in building up the arch, put the foot up in plaster-of-Paris with the foot extended and adducted.

Nothing has been said about operation for flatfoot, and perhaps it is hardly necessary to speak of any. The bone operations, with the exception of that of Trendelenberg, have all practically been abandoned. The Trendelenberg operation perhaps is still advisable in some cases where flatfoot is secondary to a badly united Pott's fracture.

In regard to the plates that Dr. Schapps has used, I have for over four years seen their use at St. Mary's Hospital and they are very satisfactory and usually it is easy to apply them. They can be made to fit either foot. Steel plates are the only plates which are worth taking into consideration. All other metals have so many bad qualities that we can rule them out, and the steel plate made by this process is very cheap, which for dispensary practice is a very important point. In some very bad cases where there has been so much inflammatory material thrown out from rheumatism, or from the flatfoot itself, it is hard to apply even after correction with an anesthetic and forcible correction with plaster-of-Paris. In these exceptional cases, perhaps, Whitman's plates, or those of Dane, are preferable, but Whitman goes to just the same amount of expense to make one plate as Dr. Schapps does to make a cast which will fit all feet. He makes a mold of the foot, and from that a plaster cast of the foot in the correct position, and a cast for each separate foot. This makes it quite a costly thing to have a cast steel mold made in which to make one sole plate. Even if a foot is corrected partially, after a while another pair of plates has to be made, and that requires a new mold because the foot has been corrected somewhat in the meantime. In the majority of cases these plates of Dr. Schapps can be made to uphold the arch in satisfactory shape.

Dr. Walter C. Wood: Mr. President and Members of the Society: I have nothing to add to the pathology of flatfoot or in regard to that mechanical method of treatment so clearly shown by Dr. Schapps to-night, and which, in appropriate cases, is very satisfactory. I have used it again and again and can endorse it most highly.

It remains, however, to be said briefly what cases are applicable to that method of treatment of flatfoot. In the first-place I wish to say that a very small percentage of cases of flatfoot are disabling, and a very small percentage of flat-footed persons re-

quire treatment. I think we have seen again and again people without any arch to the foot at all, who have no symptoms whatsoever. A man may have a high arch or a low arch in the same way as he may have a prominent nose or a sunken nose, and flatfoot in itself does not cause any symptoms, but it is the *flattening* of a high arched foot, the process of sinking down of the arch that causes the symptoms. In examining some 1600 candidates for Civil Service Examination there were about thirty cases of well marked flatfoot, and in only three of these was the flatfoot in any degree at all disabling. I have seen one man, a noted tumbler and athlete who has a flatfoot and a complete flatfoot; also a man who is a professional weight lifter, and claims he can lift 1000 pounds, who has a flatfoot; in other words, flatfoot *per se*, gives no symptoms and requires no treatment. When we see flatfoot it is important to realize whether the arch is now breaking down—and pain in the foot is due to that breaking down—or whether it is a congenital flatfoot. Now a man who has a low arch, although he may have a perfect flatfoot, has also a perfectly straight foot: but a man who has a high arch, relatively speaking, an arch that is breaking down, has the anterior portion of the foot or the forefoot rotated outward. The reason of that is plain, when the arch breaks down two fixed points on the inner border of the foot are put further from each other, for the curved line becomes relatively a straight line. Therefore, the inner corner of the forefoot is thrown further forward by the arch sinking. That necessitates a throwing outward of the forefoot, and those are the feet that need treatment. I know of no more satisfactory case to treat than disabling flatfoot.

Those of us who are interested in operative methods and have very little experience in mechanical details such as Dr. Schapps has spoken of, would be very desirous of trying operations for flatfoot. They are tried again and again. I think we ought to realize what is the highest aim of an operation for flatfoot—it is a rigid, stiff, painless foot. A stiff foot is not a perfect foot by any means. But when a flatfoot is reduced completely, with the normal bones left in their normal position and the foot supported by mechanical means and freely exercised, it regains its strength and you have a perfect machine for walking in the future. But all the operations do not aim for that—it is beyond them. Ogston's operation of chiseling off the surface of the bones and knitting them together with ivory pegs gives a beauti-

ful result, and in one or two months the foot is all right. One year afterwards it is where it was before, and probably more painful. Hare mortises the bones together and also has a stiff foot. Kelley's operation of taking a wedge out of the astragalus gives also a completely stiff foot, and removing the astragalus altogether, as has been advised by Bird, gives a deformed result. The treatment of disabled flatfoot, if carried on by Dr. Schapps' mechanical methods of support and exercise, is perfect in its result. The treatment must be persisted in, in some cases for a long time, but as a rule such cases can in time give up the use of the plate altogether.

There is one other point I want to mention, and then I will close. After the foot is raised, in order to get the support of the arch, it is necessary to overcome this eversion outward of the forefoot: in other words it is necessary to bring the anterior leg of the arch underneath again as a point of support in order that it may do its work. Therefore in connection with this treatment of support there has to be an inversion or forcible inward twisting of that foot once or twice a day by the patient, and if they are once taught how to do it right you cannot keep them from doing it because it takes away all the symptoms and the pain that does exist in the early part of this treatment.

I wish to endorse most highly the method advocated by Dr. Schapps, and to enter a protest against any surgical operation for the treatment of flatfoot, with the exception of Trendelenburg's osteotomy as spoken of by Dr. Clayland, for a traumatic condition, not at present under consideration.

Dr. William Browning: I did not intend to say anything to-night, but there is one point which Dr. Schapps has made clear to me—something which I only guessed at before. It is illustrated by a case which I saw some years ago of a man who had fallen on his feet—I do not remember the distance, but that is immaterial. He was treated in the hospital and cured so far as the general matter was concerned, but when he came to go out from the hospital he was troubled with pain in one foot to such an extent that he came to the Dispensary for treatment. As there was no orthopedic surgeon connected with that Dispensary I was obliged to do what I could for him. It occurred to me that very likely the muscles had been strained, so I applied a fair strength of Faradic current to the muscles of the leg with the idea of tightening them up, and the result was that a few applications relieved him. It fairly corrected the flattening of the foot and

relieved all the symptoms, but as to the later course of it I cannot say. An explanation of it has been given practically by what Dr. Schapps has said, I should think—simply that the muscles had been stretched, and, the anatomical structure of the bones not having been impaired when the muscles were tightened up, the matter corrected itself.

Dr. Eliza M. Mosher : Mr. President, in studying the influence of habits of posture upon the shape of the body, I have observed a tendency to flatfoot in individuals who habitually stand with the weight of the body upon the heels.

Theoretically this posture *should* tend to spread the arch of the foot. If exercises upon the toes are useful in the correction of flatfoot, as has been stated by Dr. Schapps, then training in correct standing and walking ought to prevent the occurrence of such a condition.

We should, I think, make careful observations in reference to this matter, since to discover the etiology of a malady is often of more value than to devise means of cure.

Dr. Schapps : I do not think I can add anything, Mr. President, except to say that the cases of normal flatfoot—if I may be allowed that expression—described by Dr. Wood are not the ones we are called upon to treat. They are found by accident in Civil Service Examinations and in similar manner.

In our experience at St. Mary's Hospital we have not had 100 per cent. of successful applications of the steel sole, and I think possibly Dr. Clayland had that in mind when he spoke of the sole being *almost* universally used. The fact is that we departed from the original die and had a second one made, and then found we were in trouble. Now that we have returned to the original die which was used for six years, we have no difficulty in fitting anybody, unless the feet are so tender they cannot bear any pressure at all.

QUADRUPLETS AND TWINS.

REPORT OF RECENT CASES ASSOCIATED WITH MATERNAL ALBUMINURIA
AND ECLAMPSIA.

BY C. C. HENRY, M.D.

Read before the Kings County Medical Society,

In presenting this paper for your consideration, I wish to call your attention particularly to two main features, viz., the rarity of quadruplets, and the persistent maternal eclampsia preceding, during, and following the birth of twins.

In this country, statistics with reference to childbirth are valueless, due to the deplorable fact that physicians, as well as midwives, not infrequently fail to report births. It is estimated that as high as fifty per cent. of births are not reported—an inestimable injustice to the child, for it may find it necessary to establish (legally) its lineage, and to the statistician.

With the exception of Boston, there is, perhaps, no place in the United States where records of plural births are kept distinct and apart from the general records. It would be commendable if all health offices would adopt such a system.

In Europe, it is more easy to obtain statistics, because there are laws that are enforced; in consequence births are reported. Especially is this so in England, Sweden, Germany, and Italy.

Research leads me to believe that I and my associates have the privilege to be the first to report quadruple births at the Health Office of Brooklyn, and possibly the first in this city and county to deliver four babies at a single birth. Old practitioners and busy obstetricians inform me they are unaware of a precedent.

Playfair states that, "taking the average of a large number of cases collected by authors in various countries, we find that twins occur once in 87, triplets once in 7679, and quadruplets once in 555,083."*

Parvin of Philadelphia gives twins once in 90, triplets once in 7900, and quadruplets once in 370,000 cases.

* Taking as a basis for calculation his statement, citing France, Ireland, Mecklenburg-Schwerin, Prussia, Saxony, and Wurtemberg.

In 13,000,000 births investigated by G. Veit, he found that twins occurred once in 88, triplets once in 7910, and quadruplets once in 371,126 cases.

Quintuplets and sextuplets very rare. Kaltenbach states that there are twelve authentic cases of quintuplets. The London *Lancet* of October 20, 1880, gives the statement of Dr. Francisco Vassgalli, who reports the delivery of six fetuses by an Italian woman upon the 115th day of gestation, at Lugano, Italy.

Causes : Impregnation of two or more ova ; ovum containing double germ, and ova from both ovaries developed in a double uterus.

Heredity is a predisposing cause ; children of parents who have produced multiples are apt themselves to produce two or more babies at a birth. This is true in both cases here reported. In the case of the quadruplets, on the paternal side the grandmother had twins, and on the maternal side the grandmother had a brother who was the father of twins and a niece who also had twins.

In the case of the twins here reported, the father's mother had twins three times.

Simpson mentions a case of a mother who had quadruplets—three males and one female : the female subsequently gave birth to triplets.

Parvin quotes a marvelous report. I include it because of its novelty and because credulity is invited. He says : "Sue mentions the case of a man whose wife gave birth to triplets seven times in seven years, then, seducing his servant girl, she gave birth to triplets." Nor is the case of the Russian peasant, Feodor Wassilief, to be omitted. It was quoted by Velpeau from Merriam.*

This peasant was married twice, and his first wife had quadruplets four times, triplets seven† times, and twins sixteen times in all, sixty-nine children ; his second wife had triplets twice and twins six times, making her contribution only eighteen to the entire number of eighty-seven. Moreover, eighty-four of these children and the father, who was then seventy-five years old, were living at the time the English merchant, whose story Merriam publishes, visited Russia.

* Merriam apparently believed the story, for in quoting it from the *Gentleman's Magazine*, 1783, he also quotes the following : "The above relation, however astonishing, may be depended upon, as it came directly from an English merchant in St. Petersburg to his relations, who added that the peasant was to be introduced to the Empress."

† Parvin's *Work on Obstetrics*, page 162, edition of 1895, states three, but a letter from him states that number to be a typographical error, that seven is correct.

Age is also a predisposing cause, the older the primipara the more likely is she to multiple births : in the multipara the tendency increases as she advances in fruitful years.

Playfair states that the relative frequency of sexes occur as follows : first, male and female ; next, female, and the least frequent, males.

Development is usually unequal—one fetus, by virtue of deriving a better blood supply than another, grows stronger, and in consequence the weakest one is handicapped. And, indeed, in some cases, after attaining a fair degree of development, it is deprived of its nutriment and retrogrades, resulting in complete atrophy, or the “fetus papyraceæ.” This, without a doubt, occurs not infrequently. In the cases here reported this did not prevail.

It is estimated that mortality occurs in twins once in thirteen. In triplets it is rare that all survive, and in quadruplets death is almost certain.

CASES.

Mrs. L., æt. thirty-nine years ; German birth : usual weight, 125 pounds ; never well nourished, and of feeble constitution ; married nineteen years. During the first twelve years of her married life she had five children : no miscarriages. Then followed six years without conception, during which time she menstruated regularly. In September, 1894, there was a slight menstrual show ; in October she again menstruated, when the flow was apparently normal, though it lasted seven days. At about this time she became uncomfortable, and had some edema of feet. In January she felt fetal life, but very faint ; edema marked. A month later the edema became so great and the legs were swollen to such a degree that the skin was tense and shiny. This condition prevailed throughout the remainder of gestation. In March she was almost helpless ; sleep much disturbed in consequence of her sufferings ; every motion caused pain ; could get no rest in any position. This necessarily made her very restless and wished frequently to be moved from place to place, being helpless. This could only be accomplished with assistance. In addition to her physical distress, she suffered much mentally in consequence of her uncongenial marital relations, which were prominent factors in lowering her vitality, and the means of depriving her of medical care and advice, and gave no opportunity to test her urine, which was undoubtedly albuminous. Pressure against the diaphragm prevailed up to the day of confinement and interfered seriously with her respiration.

On May 11th, at about 8 A.M., labor began; at 9 o'clock the Rev. Dr. Pulvermacher was called, and reached the patient at about 9.20 A.M. He recognized that labor was progressing, and sent for me. Shortly afterward the membranes ruptured. Upon the report by the messenger that I was out, he dispatched for Dr. H. Nichols. Before either of us reached the patient a head presented, and a male child was born at 10.05 A.M. with the cord twice around its neck and under its right arm. At 11.30 a breech presented, and a second male child was born. At 12 o'clock, noon, I reached the bedside, and a few minutes later Dr. Nichols arrived. The patient was becoming exhausted; I gave her ergot and ammonia, which rallied her.

Dr. Pulvermacher called my attention to the fact that the uterus contained another fetus. Placing my hand upon the abdomen, I found that he was right, and that the uterus was contracting.

When the mother rallied sufficiently to proceed with the labor, I ruptured the membranes, applied forceps to another presenting head, and delivered a third male child. You may imagine our surprise when we recognized that there was still another fetus unborn; but alas! before it could be delivered the uterus relaxed in consequence of fatal exhaustion, hemorrhage at this time being slight. Notwithstanding the free administration hypodermically of brandy, ammonia, and ether, the heart continued to grow weaker and weaker until life was extinguished at 12.45 P.M. After the excitement of the family had subsided, I proceeded to empty the uterus. Introducing my hand, I found the remaining fetus high up, though the head was the most dependent part. After rupturing the membranes, I effected a version and brought down the feet, delivering a female child at 1.15 P.M. Each cord was tied upon the birth of each child.

There were four placentas with membranous connection, but no vascular communication from one to another. Each placenta had its independent sac. Their combined weight was three pounds.

The aggregate weight of the babies was sixteen pounds, as follows: first, $3\frac{3}{4}$ pounds; second, $4\frac{1}{4}$ pounds; third, $3\frac{3}{4}$ pounds; fourth, $4\frac{1}{4}$ pounds. Though small, all of them were perfectly formed. Respiration was readily established in the first one, but the second one required considerable and earnest effort to induce breathing. The third did not breathe at all, and of course the fourth was dead when delivered. The first born lived five days and died in consequence of asthenic diathesis. The second born

is still alive and thriving on milk it nurses from a mother whose babe was eight months old when it was placed at her breast.

This is the second case of quadruplets of which it has been my fortune to have intimate knowledge, the first having occurred in Baltimore. The mother in that case was delivered of four living babies : all lived one week, when one died : three were dead at the end of one month, when I lost trace and the subsequent history of the remaining child and mother.

CASE II.—Mrs. I., æt. twenty-one years ; United States ; primipara ; previous physical condition good.

Examination at eight months' gestation showed an unusually large development, still I could detect but one fetus and but one fetal heart : feet and legs edematous : urine albuminous, but no casts. She voided four to five pints daily up to the evening of the 10th of April, when she complained of headache, and began to vomit. This condition continued throughout the night and until about 8 o'clock of the morning of the 11th, when she had a fall. I was notified, and upon arrival found her dazed. There was slight injection of the conjunctiva ; ordered a purge, which she vomited. At noon I found her in convulsions : conjunctiva intensely injected and of very bright red color and the tissues of the orbicular region were decidedly ecchymosed, denoting marked brain disturbance : total suspension of urine. I ordered another purge and the bromides. At 5 P.M. convulsions were less frequent : no urine ; no action of bowels : ordered enema and hot pack to back ; 6 P.M. she voided $\frac{3}{4}$ iv of urine ; bowels still inactive : temperature 104° F. : ordered ol. tigllii, spts. nit. eth. and mendereri ; 6.30 P.M. she passed $\frac{3}{4}$ vii urine ; 7 P.M. defecated ; eclampsia decidedly less : fever abating : at 10 o'clock the bowels were acting freely : convulsions very slight ; at 12 o'clock, midnight, there were no convulsions, but she was still comatose ; characteristic labor pains appeared : upon examination, I found the os dilated to the size of a quarter of a dollar ; pains continued at regular intervals until 1.45 A.M. April 12th, with head presenting ; a male child weighing six pounds was delivered : at 2.45 A.M. (nearly one hour later) another head presented, and a girl, weighing $5\frac{1}{2}$ pounds, was born ; both babies were perfectly formed and well nourished.

There was but one placenta, but there were two sacs ; weight, about three pounds.

Throughout the birth of her babies the mother remained unconscious, though she had had no anesthetic. Catheterization

resulted in $\frac{5}{11}$ urine, which was almost solid with albumin. Convulsions had ceased, but she remained in a state of coma until 3 o'clock in the afternoon, when she regained consciousness (though her mind was still clouded), and learned that she was the mother of twins. Up to this hour she was unaware of all that had transpired since the evening of the 10th—nearly two days. The babies were then put to the breast, took hold well, and have nursed regularly since.

It is particularly interesting to note the fact that this patient passed through a period of at least forty hours in a state of uremic coma, with convulsions and serious brain disturbance, and during this time gave birth to healthy twins, without any permanent pathological lesions. Her puerperium was natural, and ended, after the usual lying-in period, in excellent recovery.

The results indicate that the management in this case was entirely proper. I avoided opiates, for the reason that there was total inaction of the kidneys, and chloroform because of its tendency to induce *post-partum* hemorrhage.

DISCUSSION.

Dr. Charles Jewett : Dr. Henry can certainly claim the credit, Mr. President, of having presented two of the rarest obstetric experiences ever reported to the Society. He has gone over the ground of multiple pregnancy so completely that there is little more to be said. I would like to ask Dr. Henry if the cases were near term, and how near?

Dr. Henry : The case of twins did go to full term.

Dr. Jewett : And the quadruplets?

Dr. Henry : They apparently did.

Dr. Jewett : What was the condition of the children at birth—living or dead? viable or not?

Dr. Henry : There were two born alive and two born dead. One was born prior to the mother's death and the other after her death.

Dr. Jewett : This experience is of interest for the reason that it is stated by obstetric writers that only one-third of all cases of twins go to term. A larger proportion than that, however, judging from my experience, do reach term. It is claimed by good authorities that, in case of a larger number of children, three is the greatest number with which gestation ever reaches the period of viability. There are, however, other instances on record besides the one reported by Dr. Henry in which quadruplets have been born viable.

The occurrence of albuminuria in plural pregnancies is to be expected in a larger proportion at least than in ordinary cases. It is well known that with twins the occurrence of albuminuria is more frequent than in single fetation, and with a larger number of children still the tendency must be increased.

With reference to the frequency with which quadruple pregnancy occurs, the statistics, which the Doctor has given, correspond very nearly with those with which I am familiar. The largest number of figures probably is represented by the combined tables of four authorities, namely : Dessauer, Spengler-Ploss, Sickel, and Vert, amounting to nearly fifty million births, and in this total the number of quadruplets was about $2\frac{1}{2}$ to the million, which may be considered as near to the frequency as we can get of so rare an occurrence.

As to the influences that determine the occurrence of these multiple births or multiple pregnancies, race is one which has probably no very great influence ; yet England claims the credit of a larger percentage of multiple births than other nations. The principal causes, undoubtedly, are multiparity and heredity. Especially on the maternal side does heredity tell, multiparity not being a very prominent cause. Every doctor, who has met with twins in his practice, has no doubt often received accounts of similar occurrences on the part of other members of the family. And this is true of multiple pregnancy in general. The mother, however, does not have entire control of the matter, evidently, as is shown in one of the instances the Doctor has reported. The case, possibly, is the same as one I have in mind, but the figures, as I recall them, are somewhat different from his. As I have heard the story of the Russian peasant, it runs to the effect that by two wives he had eighty-seven children. The first wife presented him with four quadruplets, seven triplets and sixteen twins; the second with triplets twice and twins six times. This looks as though the father had something to do with the super-fecundity.

Dr. Henry : With reference to the development of the babies, they seemed to be apparently fully, or very nearly fully developed, and I have no doubt but that the four were alive at the beginning of labor. They presented no indications other than two living children. The one remaining child which is living is, I understand, thriving very nicely.

In the case of the twins, they were well developed and well nourished at the time they were born, and since they have gained

quite rapidly, so that they weigh now nine and ten pounds, I am informed.

The report that Dr. Jewett speaks of undoubtedly is the same, but I took the quotation from Parvin's work, and that is where the difference arises. All the other features seem to be the same.

...

SOME OF THE EFFECTS OF CHRONIC NASAL OBSTRUCTION.

BY CHARLES N. COX, M.D.,

Laryngologist to Bushwick Hospital; Surgeon Throat Department, Bushwick and East Brooklyn Dispensary; Asst. Surgeon (Aural Dept.) Brooklyn Eye and Ear Hospital.

Read before the Medical Society of the County of Kings, May 19, 1896.

The importance of the nose as an accessory organ of respiration cannot be overrated. It is the purpose of this paper to point out some of the effects of chronic nasal obstruction. With the latter will be included not only effects on the organ itself and the rest of the respiratory tract, but also those on the organ of hearing, and, incidentally, certain general conditions which may ensue.

Long-continued obstruction of the nose, from whatever cause, is very liable to be followed by some trouble; so that its effects may properly be considered, in a general way, without reference to the particular cause of obstruction.

EFFECTS UPON THE NOSE ITSELF.

Naturally, the first thing that will be noticed is an interference with the passage of air through the nose, giving rise to *moult-breathing*. This may vary in degree from a partial or occasional respiration through the mouth to a total and constant performance of breathing through that orifice. The latter degree is, of course, fraught with such discomfort that it is not likely to fail of recognition. We have all, at some time, experienced the abject misery of complete obstruction of the nose when suffering from an ordinary cold in the head.

It is the lesser degrees that are liable to be unobserved—and, without doubt, they are every day overlooked.

If both nostrils are obstructed there will be more or less *impairment of the sense of smell*. Indeed, the obstruction may be in the upper portion of the chamber and not interfere with

respiration, and yet totally destroy the sense of olfaction; for we may remember that the olfactory nerve is distributed to the upper portion of the nasal cavity as far down as the middle of the middle turbinated body and the upper third of the septum. Now, if this portion of the nasal cavity be shut up, there can be no odoriferous particles brought in contact with the terminal filaments of the olfactory nerve, and olfaction will be suspended.

As important as the sense of smell is to the enjoyment and well-being of man—and perhaps also to his protection—it is, after all, of secondary importance to the function of normal nasal respiration; and yet a slight impairment of the former is almost certain to elicit complaint, while considerable abatement of the latter will pass unnoticed not only by the patient, but, in many instances, by the physician as well. And, worst of all, is sometimes not considered worthy of attention, even when observed.

Other consequences of nasal obstruction are an excessive *discharge* of mucus or muco-purulent matter from the anterior nares, frequent attacks of *sneezing* and *altered speech*—the so-called nasal twang, which is to be differentiated from the “dead” or muffled voice, caused by obstruction in the naso-pharynx by adenoid vegetations or other growths. It would be difficult to describe the difference between these two abnormal qualities of voice, but having heard them, it is possible to note it.

Pain, or a feeling of tightness over the bridge of the nose, is sometimes produced by obstruction, particularly when the middle turbinated body is enlarged and pressing against the septum.

A possible, but fortunately unusual, effect of chronic nasal obstruction is the production of a *red nose*. This is a disfigurement that makes the possessor “the well-known butt of many a flinty joke.” Of course, this congestion of the end of the nose is generally the reflex of some gastric or other disorder; but it is possible for it to arise from a disturbance of the circulation within the nasal cavities, more especially from enlargement of the inferior turbinated bodies, as shown in the following illustrated cases, taken from my records:

CASE I.—Mr. P. R., age forty-six, consulted me July 7, 1891. Digestion and general health excellent. Suffering from post-nasal catarrh. Both inferior turbinated bodies very much enlarged, producing sufficient obstruction to interfere materially

with nasal respiration. End of nose much reddened—and, indeed, this was the source of quite as much anxiety to the patient as the obstruction and catarrhal symptoms.

Thorough cauterization of each inferior turbinated body, with the galvano-cautery, soon removed the cause of obstruction, and at the same time the nose gradually resumed its natural color. This symptom had been present for some months before treatment. I learned quite recently that there has been no return.

CASE II.—In April, 1895, I was consulted by Mrs. D. E., age thirty-four, who complained of occasional obstruction of the nose. Every time the nose was stopped up the tip of the organ became reddened. When the nose was free there was no redness. Touching the inferior turbinals with a probe cause them to swell, and at the same time the tip and alæ suddenly become red.

“Pinning” the turbinated bodies down, as Bosworth terms it, with the galvano-cautery has prevented ever since their swelling and the accompanying redness of the nose.

EFFECTS UPON THE NASOPHARYNX, PHARYNX, LARYNX, ETC.

One of the most common results of chronic nasal obstruction is *nasopharyngeal* or *post-nasal catarrh*. I doubt if it be possible to have any considerable degree of obstruction for a length of time without more or less of this affection following. It is so well known as to need little description. All are familiar with the distress caused by the thick tenacious mucus which collects in the nasopharynx, and with the hawking and scraping efforts to remove it. This common condition, which in its appellation has attained the dignity of a disease, is attributable in great part to some form of nasal obstruction, and in its treatment this fact must be borne in mind. To overlook this important element means failure. General treatment and simple cleansing sprays along with astringent applications, while good in themselves, and always producing more or less temporary benefits, are but evanescent in their effects when there is mechanical obstruction in the nasal passages.

To the failure to remove underlying causes is due the popular but erroneous idea that *post-nasal catarrh* cannot be cured.

When the nose is obstructed, and breathing takes place through the mouth, the pharynx undertakes to perform one of the very important functions of the nose, viz., that of moistening the air. Consequently there is an undue amount of water abstracted from

the mucous membrane, which induces *dryness of the throat*. The same is to be said of the buccal cavity. Note the dryness and attendant discomfort of the mouth and throat following only a few hours of temporary obstruction of the nose.

Lower down, that delicate and the wonderful organ, the larynx, may become irritated by breathing air that has not been filtered and freed from dust, nor sufficiently moistened nor warmed, as it should be had it passed through a normal nose. In consequence there may be set up an *inflammation of that organ*.

EFFECTS ON THE EAR AND ITS ADNEXA.

In the absence of a proper passage of air through the nose, every inspiration causes a partial vacuum in the nasopharynx. This may induce *congestion of the Eustachian tube or tubo-tympanic congestion*, giving rise to a stuffy sensation of the ear, more or less impairment of hearing, or tinnitus.

This condition of affairs predisposes to attacks of *acute or subacute middle ear catarrh*. As a result of the former, *acute sup-puration* may ensue, which, if left alone, is quite prone to become chronic, with all its attendant evils.

EFFECTS OF A GENERAL NATURE.

It should always be borne in mind that effects of a general nature may be produced by nasal obstruction. Pretty much every trouble that the human body is heir to has been by extremists attributed to nasal obstruction, and, while it is possible that the most distant organs may, on rare occasions, be affected thereby, the whole list of more frequently observed effects can be narrowed down to a very few.

Asthma is one of these. There may be those to-day who disbelieve in any nasal origin of asthma. But their number is small. The frequent mitigation and cure of asthma by removal of nasal polypi or other obstructing neoplasms or lesions is proof so convincing as to leave little doubt that this distressing disease may sometimes be caused by nasal obstruction. The fact is of sufficient importance to warrant and demand a careful examination of the nasal cavities in every case of asthma that presents itself to the physician, if his desire is to try to remove the cause as well as to relieve the patient temporarily.

Cough is another occasional result of nasal obstruction. An enlarged turbinated body or a septal spur may be the cause of a slight tickling cough that has worried the patient and his friends and resisted the onslaughts of hosts of cough mixtures.

The anterior and posterior ends of the inferior turbinated body are the most frequent seats of such a reflex. Where it exists, cough can be produced at will by touching the sensitive areas with a probe.

Headache is quite frequently the result of nasal obstruction. It is, in fact, quite a common cause—especially of frontal headache or pain located over the frontal sinuses.

Aprosexia, or inability to fix the attention, loss of memory, etc., caused by circulatory disturbances within the brain, may be, and is sometimes, due to nasal obstruction. Although, to digress, I think this condition is more frequently observed in nasopharyngeal obstruction, as from adenoid vegetations. In fact, with the latter it is not infrequent.

It remains to speak of *ocular disturbances*. Certain affections of the eye are caused or aggravated by long-continued nasal obstruction. In great obstruction, as from fibrous polypus, the visual organ may even be displaced. With lesser degrees of intranasal pressure the eye is often so affected as to resist all forms of treatment directed to itself alone, the removal of the obstructing lesion within the nose being necessary to completely overcome the difficulty.

Occlusion of the lower orifice of the nasolachrymal duct, due to hypertrophy of the inferior turbinal, is sometimes overlooked in dacryocystic disease. I am inclined to think that this fact is not quite as fully appreciated by ophthalmologists as it should be, and that the nasal speculum would frequently reveal the main seat of the mischief, which, being removed, would save the patient the disagreeable if not painful ordeal of having a probe passed through the duct at frequent intervals for months with, at best, only temporary benefit.

DISCUSSION.

Dr. F. H. Babcock: I would like to make one slight addition to the paper, or to the thoughts suggested there, and that is more or less from a dental standpoint. We all know that the teeth, if the jaws are normally developed, occlude, and by their very occlusion prevent any change in the form of the mouth. Where there is nasal obstruction, as Dr. Cox has presented it, especially at night, the mouth is thrown open, and the massefer muscles acting on either side are very apt to draw the teeth in and disturb the arch. Consequently patients many times are unable to masticate their food, the saliva is not properly sup-

plied, and there is disturbance of the digestion of the starchy food.

Dr. H. A. Alderton: Mr. Chairman, I do not know that I have anything further to add to Dr. Cox's paper. He has explained about all the ill effects that come from diseases of the nose. A thought that struck me during the course of the reading was that some ill effects come from treatment of the nose.

It is not due to Dr. Cox that I bring this forward, but recently in the work of the Eye and Ear Hospital it has been brought to my notice in a number of cases of operations on the nose, especially in the treatment of adenoids, that the tendency is with the operative procedure to set up troubles of the middle ear. I noticed in a number of these cases that, notwithstanding rigid antisepsis, the removal of growths in the nasopharynx or in the nose proper has been provocative of middle-ear suppuration. This fact furnishes no reason why we should neglect operating on the nose, but it is only brought forward as one of the reasons for cautiousness in operative interference. Of course the growths should be removed as radically as possible, but the above is a result which may follow radical operations in the nose and nasopharynx.

There is another form of treatment in the nose which may produce trouble in the ear; that is, through long treatment of the nose, irritation of the mucous membrane is set up by the use of sprays or the repeated use of cauteries or astringent or irritating applications, by which a subacute condition is produced in the Eustachian tube or in the middle ear.

The above caution has been uttered merely to bring forward the fact that the man who treats the nose and the throat must also beware of proceeding too rapidly and too radically, except as he may do it tentatively, watching closely the surrounding regions.

Dr. J. E. Sheppard: I saw this morning what makes the third case I have seen within a short time of motion of the membrana tympani with respiration. It seemed to me a matter of some little interest. In two of the three cases there was certainly some obstructive lesion of the nose, which led me to believe that the partial vacuum, which Dr. Cox speaks of in his paper, was at work in these cases.

In the case I saw this afternoon the nose was thoroughly wide open and there was plenty of room for respiration. In all the cases the motion of the drum-membrane has been inward

with inspiration and outward with expiration, indicating, as shown by this last case, that even with normal respiration through the nose there is a tendency to exhaustion of the air in the tympanic cavity. This must be certainly more marked where there is obstruction in the nose. One case I saw, which seems to have some relation to these other cases, was produced by prolonged public speaking. If the man went through a day without any public speaking his ears were perfectly comfortable. If he had a good deal of public speaking to do his ears felt "stuffy" after he had gotten through with his labor, and in this case there was some very slight obstructive lesion, the man, though breathing through his nose, had some difficulty in doing so. A little opening up of the nostrils soon cleared up the ear symptoms.

Dr. J. S. Prout: Mr. President, I am going to ask Dr. Sheppard to explain to us how these operations produce middle-ear trouble. I never understood it very well, but I know it is an operation that is as necessary as any in surgery. Will Dr. Sheppard tell us a little more about how that happened?

Dr. Sheppard: The cases in which I have seen this occurrence take place have been, I believe, uniformly after operation on the nasopharynx. I do not remember seeing any in operations on the nose. After thorough radical removal of the so-called adenoid growths from the nasopharynx I think it is common for us to see for one, two or three days, or sometimes for a week, even more greatly obstructed nasal respiration than before the operation was performed. I have seen that repeatedly. The supposition on my part—I do not know whether it is a very scientific explanation or not—has been that there was a good deal of irritation, probably amounting to inflammation of the mucous membrane, of the whole nasopharynx, including that around the mouth of the Eustachian tube, and that this inflammation very naturally would extend and involve the mucous membrane of the whole tube, in that way causing insufficient ventilation to the tympanic cavity, and we all know that insufficient ventilation of the tympanic cavity, if maintained a sufficiently long time, may bring about inflammatory changes there, even to the extent of suppuration.

Dr. E. H. Bartley: I do not wish to take very much part in this discussion, because it is something I am not very familiar with, but I have seen a number of these operations, but have not seen any of these cases of middle-ear inflammation, following operations upon this location. I have noticed that after the

removal of those adenoid growths there is usually, for a time a somewhat disagreeable discharge. There is almost always more or less odor from the breath; and the very manner of performing the operation would lead to such a result. The operation is not a clean-cut operation, that leaves behind no material for disintegration, suppuration, or septic infiltration. It would appear to me that the explanation of these results might be purely septic, or a creeping up perhaps of a septic trouble following this operation, which, we must admit, is somewhat crude. The method of removing the growths by simply tearing them off, or scraping them off, or pinching them with a pair of forceps and getting rid of them in that way would not in other locations, where we could get at it, be regarded as very good surgery; but here, where there is no other way to treat them, you cannot make a nice, clean-cut operation, and I see no other way of doing it. But it strikes me that the explanation is purely one of sepsis—I mean the result following the operation, and traveling up the Eustachian tube is one of septic origin. If that is incorrect I would be glad to be corrected on the subject.

Dr. L. H. Miller: Mr. President, I would like to ask, in the majority of cases, where they have middle-ear trouble following adenoid operation, if it is not in cases where there has existed middle-ear trouble previously, for a large majority of cases of earache in children, I think, will be found to be due to adenoids. It would seem to me that in a large number of cases where we have middle-ear trouble following adenoid operation, it is where the trouble has existed or been there previously.

For the last few years I have done quite a large number of adenoid operations and I do not remember having seen a case where middle-ear trouble followed the adenoid operation except it existed there before. As far as the matter of sepsis is concerned after adenoid operation, I think we can be fairly antiseptic in the future treatment in most cases.

Dr. Alderton: I might add a few words to the last gentleman's remarks. I would say that I suppose there are as many adenoids removed in the Brooklyn Eye and Ear Hospital as in most institutions, and in my experience there, hardly a day goes by in which I do not send from two to five patients to be operated upon. They have been operated upon by competent men, men who are as thoroughly able to perform the operation as any under anesthesia, cocaine, ether, or chloroform, and also with antiseptic precautions, and it has been my experience that some

of these cases have been sent back to me with a suppurative otitis, cases that had previously no trouble of the middle ear—when I say previously no trouble, I mean previously no suppurative trouble. They might perhaps have had tubal obstruction or retraction of the drum producing some deafness, but no previous suppurative trouble—and following the operation the ears have gone on to acute suppuration on one or both sides, and the trouble has kept up for a longer or shorter period. Only recently a case was sent in after having been operated on, and that was the condition present. I myself have operated on a patient, a grown girl, in whom I took all the precautions I possibly could. She never had had any trouble with the middle ear—never had deafness—the drums were normal, tubes normal and in every way there was no trouble of the middle ear previous to operation. After the operation, with all the antiseptic precautions I was master of, unilateral suppuration set in, and was only controlled after treatment lasting a few weeks.

Dr. Bartley: Perhaps I do not make myself understood. It was a suggestion rather more than a statement. I did not mean to intimate that sepsis immediately followed the operation, but as a result of the disintegration of tissues left behind, or tissues somewhat disorganized by the operation and then allowed to slough and come away. The operation might be perfectly aseptic, and yet the after-infection might take place in that way.

Dr. J. M. Van Cott, Jr.: Professor Miller, of Berlin, in his able monograph on mouth organisms, has shown that sixty varieties of organisms exist in the mouth and nasal passages. I agree entirely with Dr. Bartley from that standpoint. It seems to me that it would be practically impossible to remove all the organisms in the mucous membrane in the locality under discussion prior to operation. I do not see how it would be possible to get behind the adenoids and render the field of operation perfectly sterile. It should also be remembered further that in the course of the operation for adenoids a very considerable amount of trauma is done to the tissues. You cannot get the organisms out nor can you get the adenoids out without producing the trauma which would make it possible for the infection to occur. I do not think it is competent to blame anybody for such infection, for it is neither possible to get the organisms out nor to avoid inducing the *locus minoris resistentiæ*.

Dr. L. H. Miller: I do not want to be understood that I consider it at all possible to keep a nasal operation thoroughly anti-

septic. I think it is utterly impossible, and I have no doubt that the fact of sepsis is one of the main causes when an acute or subacute exacerbation of middle-ear trouble follows this operation, and it is perhaps as liable to occur after my operations as anyone's, but, at least, I have been very lucky in that matter thus far, and at the Ear Infirmary, where I see and assist in treating a large number of ear cases, it is an extremely rare occurrence that the usually preëxisting ear trouble is made even temporarily worse by the adenoid operation. The chief of that clinic also informs me that he remembers of but one case where middle-ear trouble seemed to start up *de novo* soon after this operation.

Dr. Sheppard: I would like to add one word. I feel as if I might be put in a false light without a word of explanation. The extension of the inflammation of which I spoke has as its undoubted cause, sepsis; I had in mind when speaking rather the manner of extension than its cause, with regard to which I agree entirely with Dr. Bartley.

The Chairman: If there is nothing further to be said, will Dr. Cox please close the discussion.

Dr. Cox: Only a word, Mr. President. In reply to the first speaker, I purposely omitted any mention of any effect upon the teeth—the palatal arch being drawn out of shape, etc.—for this reason, that I aimed to confine my paper to the effects of chronic nasal obstruction, and while of course nasal obstruction, as well as nasopharyngeal obstruction, might bring about such results, it has generally taken place in childhood, and in childhood the obstruction is usually in the nasopharynx. Obstruction in the nose is not nearly as common in children as in adults, the obstruction being found in the majority of cases in the nasopharynx.

Relating to the results of treatment in the nose, the discussion as to its possible effects on the ear and so on has been so thoroughly gone over that I will not speak further of them, but I would like to mention one other additional evil effect of treatment that might be brought about. Dr. Seiss, of Philadelphia, reports several cases of closure of the lower end of the nasolachrymal duct as a result of cautery operations, bringing about the very thing that hypertrophy of the turbinated body itself might do, so of course we cannot be too careful in the use of the cautery in the nose.

There is one part of the nose I am very cautious about using the cautery on, and that is the posterior nares. I hesitate to

apply the cautery to the posterior end of the turbinated bodies. I believe disastrous results follow that sometimes, setting up inflammation there which extends very readily to the ear through the Eustachian tube. It seems to be prone to violent reaction, perhaps more so than at the more anterior portions of the turbinated body. Where there is any hypertrophy of the posterior end of the inferior turbinated body it is best to remove it by a cutting operation as with a snare; and apropos of this, Seiler, of Philadelphia, makes the point—and I believe he is correct in that—that very frequently posterior hypertrophies will disappear after treatment of anterior ones. I have frequently seen this occur.

HISTORICAL DEPARTMENT.

RICHARD LAWRENCE VAN KLEEK, M.D.

Deceased, at Gravesend, Kings County, N. Y., December 18, 1896, Richard Lawrence Van Kleek, M.D., in his fifty-seventh year.

Genealogy.—Dr. Van Kleek descended from a long line of literary-religious Holland ancestry.

About the year 1650, one Belthazer Barntz emigrated from Holland and settled on the Hudson in what is now Poughkeepsie. His residence was one of the first here erected, and until recently, when demolished, was a well-known landmark of the first settlement of the place.

As was largely the custom among our Holland settlers, Belthazer Barntz assumed the name of his native place—Kleeck—and wrote his name Belthazer or Barntz Von Kleeck—(or “of” Kleeck). Changes in the orthography of the surname have been made, and it is now written Van Kleeck—Van Kleek.

Dr. Van Kleeck's great-grandfather John was a physician, and practised medicine in Poughkeepsie.

Dr. Van Kleeck's grandfather, Lawrence J., was for years a practising attorney at Glens Falls, N. Y. He was noted for his strict business integrity and Christian piety. He suddenly expired at about the same age of the Doctor, and from the same malady.

Dr. Van Kleeck's father, Rev. Richard Davis Van Kleeck, was born at Poughkeepsie, in 1804. He early manifested rare mental

qualities in the line of literature: and rare heart qualities in the line of the religious. At the age of fifteen he entered Union College, Schenectady, and graduated at eighteen, with marked honors, in a class of seventy-four students. Among his college associates were the late Hon. John A. Lott, LL.D., and the late John B. Zabriskie, M.D., father of the late John L. Zabriskie, M.D., of Flatbush, Kings County. (See article in *BROOKLYN MEDICAL JOURNAL*, on Dr. Zabriskie, August, 1896.)

Graduating from Union College, Richard D. Van Kleek entered the Theological Seminary of the Reformed Church, at New Brunswick, N. J. After his three years' curriculum in the seminary, he graduated with high honor as a divinity student.

His first pastorate was over the Reformed (now First Reformed) Church, at Somerville, N. J. Here he laid baptismal hands upon the infant brow of Rev. T. DeWitt Talmage, D.D. His next pastorate was over the Reformed Church, at Canajoharie, N. Y. His next, over the associate Reformed Churches of Berne and Beaverdam, N. Y.

At Berne, March 21, 1839, Dr. Van Kleek was born.

In 1843 the principalship of Erasmus Hall Academy, Flatbush, Kings County, N. Y., having been vacated by the resignation of James Ferguson, A.M., the Rev. Richard D. Van Kleek, through the kindly influence and advice of his former collegiate associates, Hon. Judge John A. Lott and Dr. John B. Zabriskie, then Trustees of Erasmus Hall Academy, accepted the principalship of the institution, over which he presided with marked ability and success for sixteen years.

Studies.—At Erasmus Hall Academy, under the careful tuition of his father, Dr. Van Kleek prepared for college, and in 1855 entered the University of the City of New York, from which he graduated in 1858. He then entered the University Medical College, where he attended lectures for three years. Meanwhile he also assisted in teaching the classics in Erasmus Hall, and also studying pathology under the tuition of the late Dr. John Ball, of the city of Brooklyn.

In 1860 he was a student in Long Island College Hospital.

In 1861 Dr. Van Kleek took his degree of A.M. In 1862, his degree of M.D., at the University of New York, and entered the Kings County Hospital as interne for one year. Here he enjoyed the wise instruction of the distinguished Dr. Thomas Turner, then physician-in-chief of the hospital. Between the Doctor and his young student a most cordial friendship soon manifested

itself. Under the power of such mutual regard, the young student largely imbued much of the patient, observing, studious, careful spirit of his preceptor; and wonderfully profited by his long practical medical experience and investigations.

Medical Practice.—Leaving Kings County Hospital, and highly recommended by Dr. Turner, Dr. Van Kleeck at once settled at Gravesend, Kings County, in August, 1863; and there continued medical practice for thirty-three years to the noon of the very day upon which he was stricken with the fatal malady—apoplexy.

As time proved, he wisely selected a promising, prosperous field for practice. By careful study, by persevering toil, by prompt rendition of service, by a remarkable uniformity of success in treatment, he succeeded in building up a large, lucrative practice, which thus continued until the close of his life.

To a remarkable degree the Doctor possessed that intuitive knowledge of disease and of symptom, and therewith that general correctness of diagnosis.

These happy gifts wonderfully aided him in treating disease correctly, and with remarkably quick decision as to remedy.

The Doctor's constitutional make-up was such that he could not be a cold, unfeeling, unsympathetic witness to intensity of suffering. In the intensity of his mental and physical effort to bring speedy relief to the sufferer, he often became quite oblivious to all surroundings.

Such strain upon the neurotic centers of his being no doubt largely laid the foundation for, and hastened to its consummation, the ailment to which he so suddenly succumbed.

His deep sympathy for the sick poor was marked. He could not rigorously demand from such the fees his service demanded. To not only professionally, but materially aid them, and receive their benedictions, was for him a far greater pleasure than the cold remuneration of fee.

In the sickroom the doctor was not the cold ascetic, whose presence would tend to increase the malady of his patient, and the gloom of the household; but the cheery, encouraging physician, whose presence was a comfort to the afflicted, a magnetic contribution to the speedy recovery of the patient.

The Doctor, during his thirty-three years' practice, showed marked ability in his treatment of febrile disease and in obstetric practice. In this last-named specialty his success was quite phenomenal. During his long practice he had no less than 2300 cases.

Dr. Van Kleek was Health Officer of the town of Gravesend from 1884 to 1894. In his district were included the popular summer resorts of Sheepshead Bay and Coney Island. Especially during the summer season his duties were responsible and onerous.

For five years he was summer physician of the Coney Island Health Home of the New York Children's Aid Society.

In connection with his busy professional life, he was induced to take the superintendency of the post-office at Gravesend. This position he held for nineteen years.

The Man.—Dr. Van Kleek was a man of splendid physique. Over six feet in height, and of commanding presence. He was of retiring manner, unobtrusive, unpretentious. To truly know the man, was, by social-trusted communion, to come into the innerness of his being. Here a deep vein of soul-richness revealed itself—a kindly heart, a liberal soul, a forgiving, unsuspecting spirit; a naturally cheery, happy disposition. His somewhat brusqueness at times was the deceptive betrayal of the kindly soul within.

His was an exceedingly fine-strung, deeply-sensitive organism—a marked characteristic of his paternal ancestry. What he often silently suffered in his soul at the hands of the uncouth, the bold intruder, the fault-finder, the deceiver: at the hands of jealous, insulting foes, no pen could portray.

In early life Dr. Van Kleek united with the Reformed Church of Flatbush, Kings County, under the pastorate of the Rev. Thomas Strong, D.D. He united with the Reformed Church at Gravesend soon after taking up his residence there, and alternately served in the church official capacity of deacon and elder.

At his obsequies, the densely-filled sanctuary, with relatives, friends, the sorrowing poor: the well-deserved eulogiums pronounced by two pastors, the gorgeous display of flower-bloom, the long funeral cortege which followed his remains to beautiful Greenwood, all probably demonstrated the holy, loving regard in which, as a man, a Christian, a physician, a neighbor, he was held by the community he had so long and faithfully served.

During his long practice he had taken but little recess from duty. He was stricken, as he often predicted he would be, in active service.

He was a member of the Medical Society of the County of Kings, from 1872 until his death, and of Franklin Lodge, No. 182, I. O. O. F.

WILLIAM WOODVILLE, M.D.

William Woodville was born in Cumberland, Eng., and educated at Edinburgh, where he was a favorite pupil of Dr. Cullen, and took the degree of M.D. in September, 1775.

He began the practice of his profession in his native county, but shortly removed to North Wales, where he remained a few years only. In 1782, Dr. Woodville settled in London, and was admitted a Licentiate on the College of Physicians.

He was elected physician to the Smallpox and Inoculating Hospitals in 1791, eight years before Jenner introduced the method of protection from the dreadful disease, which was destined to do away with at least the latter of these institutions.

Dr. Woodville, besides being the recognized authority of his time on his specialty of smallpox and inoculation, was an accomplished botanist, and his office at the Smallpox Hospital afforded him the opportunity of cultivating that science. Some two acres of ground belonging to the institution, then situated at King's Cross, was appropriated by him as a botanic garden, which he maintained at his own expense. It was from this that he gleaned the material for his monumental work on "Medical Botany; Systematic and General Descriptions, with plates of all the Medicinal Plants, indigenous and exotic, comprehended in the catalogues of the *Materia Medica*, as published by the Royal College of Physicians in London and Edinburgh;" 3 vols., 4to., London, 1790. A supplementary volume was issued in 1794, making it a sumptuous work of four folio volumes.

He also wrote a "History of the Inoculation of the Smallpox in Great Britain;" 8 vols.; London, 1796.

When Jenner's pamphlet, announcing his great discovery, appeared, Dr. Woodville and his colleague Dr. Pearson were among the first to experiment with the new virus, but unfortunately they failed to follow closely the directions laid down so minutely by the author, and made their experiments in so careless a manner that they mixed the smallpox and the vaccine disease, thus making a sort of hybrid, which was capable of producing true smallpox; and when they thought they were disseminating innocuous vaccine, they were in reality spreading its deadly sister disease. Other matter taken by them from true vaccine pustules

proved innocuous in consequence of carelessness in collection, or its being taken either too late or too early in the development of the vesicle.*

The consequence was, that an alarm was raised that the pretended discovery was good for nothing; and it required all Jenner's penetration of mind and vigor of character to detect and arrest this dreadful calamity. He went to London, and carefully investigated their methods and source of supply, and in exposing their errors secured for himself their most bitter enmity.

The following quotation from a letter of Dr. Jenner, is of interest in this connection: "My first acquaintance with Woodville commenced in this place, Cheltenham, about twelve years ago. It happened that he was here during an excursion I made from hence to Berkeley, and in the interval, Woodville attended one of my children who had been seized with a violent fit of illness. On my return, I found the child recovering, and felt so pleased with the manner in which Woodville had treated him, that although his conduct toward me in town called aloud for chastisement, yet I was restrained from obeying it, through the recollection of this event. When I found him about to publish his pamphlet relative to the eruptive cases at the Smallpox Hospital, I entreated him in the strongest terms, both by letter and in conversation, not to do a thing that would do so much to disturb the progress of vaccination, and finally prove so injurious to himself. Cases were shown both to myself and nephew at the Smallpox Hospital, of patients covered from head to foot with pustules as correct as if they had actually arisen from contagion, or been produced by inoculation. Still no argument would bend him. However, not many months after his book appeared, he came to me in Bond street, where I then lived, and told me he had seen his error, and should publish his recantation, and dedicate his pamphlet to me. We parted as I thought, friends, for I thanked him for his liberality and kindness, in offering me the dedication; but how greatly was I disappointed when he sent it. Instead of finding generous and manly statements, it was in reality a satire."

We are told that afterward a reconciliation was effected between Woodville and Jenner, through the mediation of mutual friends, and that vaccination had no warmer advocate than the

* It was Dr. Pearson, who furnished the first supply of virus to New York, which proved worthless, as noted in a previous number of the JOURNAL.

man, whose business of chief inoculator of London, had been so much injured.

The pamphlet alluded to, "Reports of a Series of Inoculations for the Variolæ Vaccinæ or Cow-pox: with remarks and observations on this Disease as a Substitute for the Smallpox. By William Woodville, M.D., physician to the Smallpox and Inoculation Hospitals," is one of the treasures of the writer's library.

Dr. Joseph Adams, who was much with Woodville just before his death, relates several traits of his firmness, and seeming unconcern with respect to death. Woodville lived in lodgings at a carpenter's, and the doctor, a few days before his death from pulmonary disease, secured his admission to the Smallpox Hospital, where he might be better attended to. He observed to Dr. Adams, the next day, that he was a poor man come to die at the Hospital, and he remarked that some of those who called on him flattered him with hopes of his getting better. "But I am not so silly," he said, "as to mind what they say; I know my own case too well, and that I am dying, a younger man with a better stamina might think it hard to die; but why should I regret leaving such a diseased, worn-out carcass as mine?"

He had not always been on the best of terms with the carpenter with whom he lodged, and Woodville said he wished to let the man see that he died in peace with him, and as he had never had much occasion to employ him, desired that he be sent for to come and measure him for his coffin. He begged him not to be more than two days about it. "For," said he, "I shall not live beyond that time," and he did actually die just before the end of the next day, March 26, 1805, in the fifty-eighth year of his age.

J. H. H.

GEORGE DEDERIC HOLSTEN, M.D.

George Dederic Holsten, M.D., until lately a practising physician in Brooklyn, and a member of the Medical Society of the County of Kings, died August 21st, at Beumaris, Ontario, Canada.

Drs. James M. Winfield and Charles Zellhoefer, will act as a committee to prepare a suitable biographical sketch for the JOURNAL.

PROGRESS IN MEDICINE.

OBSTETRICS.

BY CHARLES JEWETT, M.D., SC.D.

PUERPERAL FEVER AND SEROTHERAPY.

Charpentier (*L'Obstetrique*, May 15, 1896). In February, 1895, Marmorek announced to the Biological Society his discovery of an antistreptococcic serum: at the same meeting, Rogers and Charrin made a similar communication and reported a case of puerperal fever which recovered under the use of their serum. At the following meeting, Rogers related another successful case, and later, one of erysipelas in the newborn child, and one of streptococcic angina, both of which recovered under the serum treatment. Recently, Marmorek has published forty-five cases of erysipelas cured by his antitoxin. These results are truly gratifying. The author's investigations, however, have not been so encouraging. He has collated 40 observations on the use of the antistreptococcic treatment of puerperal infection. Four were reported by Budin, 3 by Porak, 2 by Maygrier, 16 by Bar, 4 by Ribemont, and the remainder were from various sources. Rejecting one case, in which the effect of the injection was doubtful, there were 22 recoveries and 17 deaths, a mortality of 42.5 per cent. Throwing out 5 cases which were at the point of death when the treatment was begun, there still remains a mortality of 35.29 per cent. Of the 40 cases, there were bacteriological examinations in 25. In 16, in which streptococci only were found, there were 9 recoveries. In 9 cases in which the staphylococcus and the bacterium coli were present, as well as the streptococcus, there were 4 deaths.

The dosage varied with different observers and the serotherapy was in all cases associated with other treatment. Ill effects reported were urticaria, erythema, pruritus, disturbances of the nervous system. Gaulard, in one case, attributes the death of his patient to the serum. The author concludes that the streptococcus antitoxin has not yet fulfilled the hopes at first entertained for it.

Boissard thinks Bar has taken a very optimistic view of serotherapy, considering the results Bar has himself reported. A

comparison of the statistics, under former methods of treatment, with those of antistreptococcic injections, is unfavorable to the latter. Boissard protests that the serum injections should not replace other and long-tried methods of treatment.

Bué remarks that Bar and Tissier do not allude to the possible injurious effects of the antistreptococcic serum on the kidneys. Of four women treated at Lille, with serum, two became albuminuric who were not so before.

Bar contends that the albuminuria was not produced by the treatment, yet admits that a previously existing albuminuria may be aggravated by it. He sees in the antitoxin a valuable auxiliary, and especially in the treatment of cases infected before labor, cases in which early intrauterine measures are impossible.

Budin regards the efficacy of serotherapy in puerperal sepsis as exceedingly doubtful. At all events, confidence in the new treatment should not relax the thoroughness of the usual antiseptic cleansing.

MECHANISM OF PLACENTAL DELIVERY.

Ahlfeld (*Zeitschr. f. Geb.*, Bd. xxxiii, H. 3.) The theory now credited to Schultze was first taught by Baudelocque. Rigby and Duncan declared that the mechanism of Baudelocque is artificial, resulting from traction on the cord, yet the views of the latter authority are generally accepted in Germany and in France. No demonstration of the Baudelocque-Schultze theory, however, had been offered till the author's investigations in 1881. He then showed that expulsion by the fetal surface was the normal method and presentation by the margin was an exceptional one, due to irregularity. Fehling and his pupils, Zinsstag and Ziegler, who still adhere to the views of Duncan, refer deliveries by the fetal surface to supposed traction on the placenta developed during the expulsion of the fetus. This assumption is easily disproved by everyday observations. The cord is not drawn tense during labor, in normal conditions. Against the contention of Fehling, moreover, are the facts that the placenta could be separated from the uterus by traction on the cord only so far as the passage of air or liquid behind the placenta would permit; that the insertion of the cord is not always central; that central inversions of the placenta occur even in marginal and in velamentous insertions.

Duncan teaches that the placental separation begins at the margin, and affirms that the free border is perceptible by the touch at the os uteri, but he does not say how many obser-

vations of this kind he has made. Again, the introduction of the hand into the passages disturbs the normal mechanism of placental separation and is not a reliable method of investigation.

Ahlfeld made observations in 121 confinements, with the following results: Placing a *serre-fine* on the part of the placenta which first presented at the vulva, the *serre-fine* was found at the middle of the fetal surface, after expulsion, in 71 per cent. of cases, at the border in 16 per cent., on the uterine side near the border in 10.5 per cent., and on the membranes in 1.9 per cent. In 85 out of 122 cases (twins occurring once) the membranes covered the uterine surface, in 32 they were on the fetal surface, and in 5 they were between the two situations.

Duncan, as an argument for his theory, invokes the assumed fact that hemorrhage does not occur when the placenta descends by its border. But Zinsstag himself has shown that the loss of blood is greatest in these very cases. In 160 confinements, he observed hemorrhage exceeding 1000 grams, 34 times. In 24 of the 34 cases the placenta presented, according to Duncan. In 50 cases of hemorrhage noted by Ziegler, the placenta was expelled 5 times *a la* Schultze and 45 times by the method of Duncan.

Schultze's theory was sustained in two cases of Cæsarean section observed by Ahlfeld. The placenta bulged at its central portion, the border still remaining adherent. On lifting the edge with the finger, blood spurted out from the retro-placental accumulation. The author refers to two drawings in his book, made from frozen sections, one showing the placental inversion just begun and the other complete.

SEROTHERAPY IN PUERPERAL FEVER.

Gaulard (*l'Obsétrique*, January, 1896) reports two observations on the treatment of puerperal infection with anti-streptococcic serum.

In the first the fever yielded rapidly to the injections. The second patient had previously been curetted. In this case the injections apparently provoked uncontrollable vomiting and the woman died. Her temperature, however, had fallen to the normal. The favorable issue of the first case G. attributed wholly to the use of the serum. The fall of temperature in the other patient, he thinks, counts also as a demonstration of the value of the treatment.

The author remarks that the dose in the second case may

have been excessive. The quantity to be injected and the frequency of repetition are questions yet to be determined. The serum treatment, he observes, is addressed only to the systemic poisoning. The necessity for clearing the uterus of necrotic material still remains; the latter step should immediately precede the serum injections. [The reviewer's experience with streptococcus antitoxin in the treatment of puerperal septicemia has not been satisfactory. Possibly this has been due to the lack of a reliable preparation.]

COMPARATIVE RESULTS OF CÆSAREAN SECTION; SYMPHYSEOTOMY AND PREMATURE LABOR.

Tarnier (*Journ. des sages-femmes*, November, 1895) reports a case in which symphyseotomy was performed in his clinic for moderate flattening of the pelvis, and with a favorable result for both the mother and her infant. The woman's only previous pregnancy had been terminated by induction of labor at the eighth month, but the child was lost. In connection with the report, the author discusses the comparative merits of different procedures in narrow pelves, and presents the following statistics collected from various sources:

		Maternal Mortality.		Fetal Mortality.
		per cent.		per cent.
Frommel	132 Cæsarean sections	9.		10.6
Neugebauer	178 Symphyseotomies	11.1	"	19.
Tarnier	124 "	9.67	"	25.8
Pinard	49 "	8.16	"	10.2
Morisini	241 "	11.6	"	22.82
Leopold	45 induced premature labors	2.	"	33.4
Braun	54 "	0.	"	38.
Pinard	100 "	1.	"	33.
Tarnier	116 "	0.	"	26.7

The best results in induced labor were obtained in pelves with a conjugate between 8.6 cm. and 9.6 cm. ($3\frac{3}{8}$ and $3\frac{3}{4}$ inches). That is the degree of contraction most frequently met with. In that class of cases, Tarnier's results under induced labor have been 20.29 deaths in 200 (mothers and infants). Morisini's statistics show a mortality of 33 in 200 for symphyseotomy. Pinard's death-rate in the latter operation has been only 18.36 in 200 mothers and infants, but Tarnier thinks it better to save 100 women in 100 labors with a loss of 20 infants, than to lose 8 per cent. of the mothers and 10 per cent. of the children.

He divides his 116 cases of induced labor into two classes:

(a) Pelves of 8 cm. and more: 109 cases; maternal mortality, 0; infantile, 24.77 per cent. Infants born alive, 75.23 per cent.

(b) Pelves of 8 cm. and less: 7 cases; maternal mortality, 0; infantile, 57.14 per cent. Infants born alive, 42.86 per cent.

GYNECOLOGY.

BY WALTER B. CHASE, M.D.

GYNECOLOGICAL COMPLICATIONS OF GONORRHEA.

Madden (*Lancet*, August, 1896). The diagnosis of gonorrheal from other forms of chronic salpingitis, as well as that of the consequent tubal collections, *i.e.*, pyo- or hydrosalpinx—must rest as largely on the history and general symptoms of each case as on the bacteriological evidence which in some instances may be afforded by the detection of gonococci in the accompanying cervical or vaginal discharges. Of the earlier symptoms of gonorrheal, as well as of non-specific, salpingitis, probably the most constant are the persistent recurrence of otherwise inexplicable attacks of menorrhagia and metrorrhagia, associated with dysmenorrhea in the intervals, between which attacks a deep-seated acute or lancinating intra-pelvic pain, shooting out into the sacral and inguinal regions, or extending down the thighs, is generally complained of. As the disease goes on, evidences of pyrexial disturbance, sudden alterations of temperature, a spiky clinical chart, and pyogenic rigors become observable, and are often attended with intra-menstrual hemorrhagic or watery mucoid discharges from the uterus, while a little later local tumefaction and tenderness, discoverable by conjoint recto-abdominal exploration, in the course of the oviduct may disclose the existence of pent-up purulent or serous collections in the infected tube. The frequency of the extension of gonorrheal infection from the oviducts to the ovaries, although disputed by some authorities, appears to me to be unquestionable. At any rate, whatever may be the case elsewhere, in my wards, at least, acute inflammation of the ovaries has been brought under notice as a consequence of that infection almost as commonly as from puerperal and other septicemic causes, being, in fact, as Sir Spencer Wells observed, “probably of more frequent occurrence than acute orchitis is in the male.” The chief symptoms of this condition are a localized, continuous, dull, aching pain; extending its area and increased on touch or motion, together with a directly recognizable enlargement and tenderness of the implicated gland. This condition in its acute

stage is invariably attended with well-marked constitutional or febrile disturbance, and subsequently, as the disease becomes chronic, with a long train of menstrual derangements and neurasthenic disorders, which are not infrequently misascribed to other causes. The latter, or chronic forms of gonorrheal oöphoritis may, moreover, if neglected, lead to serious structural changes, including suppuration, softening or complete disintegration of the stroma of the affected organ. In some cases the ovary itself is converted into a thin-walled pyogenic cyst containing a quantity of fetid pus. Fortunately, however, the consequences of chronic gonorrheal oöphoritis are by no means generally so immediately grave as in the cases just referred to, more common results being chronic enlargement from congestive hypertrophy of the affected glands, with consequent menstrual derangements and infective hyperemic changes in the adjacent pelvic peritoneum, while in some instances of this kind the ovaries ultimately become nodular and atrophied and ovulation ceases.

With reference to the other intra-pelvic complaints of which gonorrhea is a fertile source, I shall only here observe that long clinical experience has convinced me that in a large proportion of instances peri-uterine phlegmon, or in other words, all those chronic inflammatory lesions of the pelvic serous and connective tissues formerly included in the term pelvic cellulitis, and subsequently better known as perimetritis and parametritis, may be found traceable to that infection.

METHOD OF CLOSING THE ABDOMINAL WOUND OF CELIOTOMY.

Goelet (*Clinical Record*, July 1896). The method of closing the wound is important, and every operator has some favorite plan of his own. The following is the one which has given me the greatest satisfaction. The peritoneum is united by a continuous suture of fine (No. 0.) chromicized catgut, which is made to include the muscle as well. This suture begins at the upper and terminates at the lower angle of the wound, where it is tied. The wound is then irrigated with a solution of bichloride or lysol. Next deep interrupted sutures of silkworm-gut are inserted about half or three-quarters of an inch apart and half an inch from the margin of the wound. These are made to include the skin, fascia, and muscle, which has been included by the first suture. These are not tied at once, but the ends are left loose on each side and grasped by pressure-forceps. Now

the fascia is united separately by means of a continuous suture of the same size chromicized catgut as was employed for uniting the peritoneum. This last row of sutures is not always essential and is often omitted, if for any reason it becomes necessary to hasten the operation at this stage. The interrupted silk-worm-gut sutures are now tied, beginning at the upper angle of the wound, and taking great pains to secure perfect coaptation of the skin margins. If there is any gaping between these sutures, interrupted superficial sutures of fine chromicized catgut are inserted.

STERILITY.

Ashby (*The American Journal of Obstetrics*) concludes a paper as follows: The adjustment of the tube and ovary during ovulation is effected in the human female by the most delicate mechanical arrangement, and may be defeated by trivial mechanical interferences.

In animals that habitually have multiple pregnancies, a more perfect mechanical provision is made for the reception of the ovum by the tube. The number of ova impregnated seems to bear a close relation to the perfection of the arrangement which is provided for their passage into the tube. Thus in the bird will be found the most perfect type of mechanical adjustment, in women the most intricate and difficult.

The adjustment of the pavilion of the tube to the ovary may be set aside by the most trivial vices of structure and disease, resulting in absolute or relative sterility.

Sterility is due to minor diseases of tubes and ovaries to a greater extent than has been recognized. In an investigation of the etiology of this condition this fact should be considered in connection with an investigation of other causative influences.

The highest aim of surgery is to restore and not to destroy function. In the treatment of minor forms of ovarian and tubal disease this fact should be borne in mind. Organs should not be sacrificed to the rule of expediency, but should be preserved in deference to a law of genuine conservatism.

PROCEEDINGS OF SOCIETIES.

PROCEEDINGS OF THE BROOKLYN SURGICAL SOCIETY.

June 4, 1896.

Dr. Friend presented a little boy treated in St. Peter's Hospital for acute tetanus by the use of antitoxin, and read the history of the case:

A. J., age five, entered St. Peter's Hospital May 1, 1896. He cut his right foot by stepping on a piece of glass a week before. Three days after the accident the parents noticed great difficulty in his taking food. The lower jaw was so stiff that he could not open his mouth, and when forcibly opened he cried out in pain.

Stiffness and rigidity of muscles in back, legs, arms, and abdomen followed. He had what were described to be convulsions. On May 1, 1896, the wound in the foot had healed, the muscles of legs, arms, chest, and abdomen were hard and contracted. "Risus sardonicus" was pronounced. An hour after admission he suddenly stopped breathing and became cyanotic for half a minute, but in as short a time the normal color returned. This was probably due to the action of the tetanus poison on the pneumogastric nerve. Temperature 100° F., which did not increase to more than 101° F. per rectum; pulse 140, but this gradually diminished to normal. There were four or five convulsive attacks in all. The muscles gradually lost their rigidity, beginning with those of the face and ending with those of that leg where the foot had been injured.

The forearms, curiously, did not have the tetanic rigidity noticed in arms or legs, but the flexors of the legs were so contracted that the toes were drawn under and the feet themselves inward.

Within four hours of admission into the hospital a subcutaneous injection of Gibier antitoxin tetanus serum was given, followed every six hours, until six doses had been given.

One-half ounce of the serum was given at each injection. He also had chloral hydrate gr. iv and bromide of sodium gr. x every two hours, so long as the rigidity of the muscles continued; this administration of bromide and chloral lasted a week. The patient was discharged on May 27, 1896, able to walk alone.

He believed this to be a case of recovery from acute tetanus. The immediate diminution in the number and the prolongation

of the intervals of the convulsive attacks followed the injection of the serum. It may be that the use of the chloral and bromide had much to do with the lessening of the severe symptoms.

Dr. Pilcher followed by saying that the main interest, at the present time, in tetanus is the question of the value of antitoxin in its treatment; that in the case presented there was a mixed treatment; while antitoxin was injected, there were also given to the patient bromide and chloral, which leaves a doubt as to the specific effect of antitoxin. That the question as to the value of any remedy in any individual case of tetanus must be a matter of a great deal of doubt, owing to the well recognized fact that a certain proportion of cases have a natural tendency to get well themselves, while the greater proportion of them have a tendency to perish, whatever the treatment is that has been adopted. That there have been a number of cases reported in this vicinity where the antitoxin has been tried without any beneficial effect. The Doctor referred to three cases of tetanus which had come under his own observation: In the first, which arose under his observation and passed to its fatal termination rapidly, the antitoxin was not tried, but reliance was placed entirely upon the previously accepted methods of treatment of such cases, without effect, the patient dying on the fourth day of the attack. The second case was brought to the Methodist Hospital well advanced in the attack, the tetanic symptoms having begun at the home of the patient several days before his admission to the hospital. He was in a state of great depression, and died in about thirty-six hours after admission: there was no opportunity to try the antitoxin in his case. The third case, which Dr. Pilcher saw with the late Dr. Anderson, was a boy who had wounded himself in the hand with a toy pistol, and as the result a well-developed tetanus followed. The tendency to chronicity, happily, was manifested in this case: the more severe symptoms were kept under control by chloral and bromide, and in due time he recovered perfectly and has since been perfectly well, and is now a lusty young man. The result of this particular case, however, did not convince the Doctor that the remedies that were administered had any specific effect upon the tetanus, though unquestionably they relieved his sufferings and conserved his strength, thus aiding in enabling him to wear out the disease. But from the multiplicity of remedies used in the cases that do recover, it would seem that those cases that get well, get well from the feebleness of the original infection and the ability of the constitutional powers of the patient to throw off the

disease, and not from any specific effect of the remedies administered. Yet there seems to be reason to expect there should be a decided effect manifested by antitoxin, and all observations of cases in which it has been used are very valuable.

Dr. Friend stated in reply that it was on that account that he desired to present the case, to show more particularly that there was nothing in the case that could be shown to have resulted from the injection of the serum. The temperature remained about as it was, the pulse was better, and there was no reaction found which might be expected from the injection of so much of such a fluid into the body. He further stated that he believed this case to be one of a light tetanus, although it could not be told at the beginning what it was to be: he believed the tendency was from the first towards recovery, and that the use of bromide and chloral simply saved the patient from suffering.

Dr. Rochester stated that he had had two cases of tetanus, both of which happened to get well without the use of antitoxin. One was a man nearly seventy years of age, and it was the most vivid picture of the classically described tetanus that he had ever seen: simply raising the shade or walking across the room would send the man into convulsions with opisthotonus, and so severe that he broke out two of his teeth. The Doctor noticed when he first saw him that one of his fingers was tied up with a dirty rag, and found that the nail had been partially torn off. After dressing his wounds he administered chloral and bromide treatment, and the patient commenced to improve and got well; he was given very large doses of twenty or thirty grains every two hours. He gradually lost the tendency towards convulsions, and the rigidity went from the jaw last.

The other case was more interesting to the Doctor, because he was never quite able to understand what was the cause of it. It was a case following after childbirth in which forceps had been used in delivery, but there was no bruising at all, and the disease did not set in until a week after the child was born. The umbilical cord was all right and properly separated, and yet it was a very marked case of tetanus. The child got well. You could not give a child of that age—a week old—much medicine, but the case was in charge of an intelligent nurse, and when the child would start in convulsion it was given chloroform on hot water to inhale. At first the convulsions came every half hour; at the end of thirty-six or forty-eight hours they came about every hour, and then every two or three hours, but it was all of a month

before the child ceased to have them. This was in July or August, 1895. There was no crushing in of the cranial bones and no difficulty with the umbilical cord. It was nearly a month before the child was nursed, being fed first with a spoon. All the treatment used was chloroform.

Dr. Hopkins remarked that the question of remedial treatment in regard to antitoxin is a very difficult matter to determine. He referred to a case that occurred under his notice about three years ago, where a boy eleven years of age was riding his bicycle on St. James place and came in contact with a coal wagon with two tons of coal. The wagon passed over his left arm, crushing it, and also passed over the left leg, breaking the femur into three portions and chipping a piece off of the pelvic bone. The boy was in such a condition that when the ambulance came the surgeon questioned whether he would move him, for fear he could not be lifted into the wagon. Dr. Hopkins rode with him in the ambulance to his home, and it was then a grave question as to whether both the arm and leg should not come off, but the Doctor decided to take the risk, because, in his opinion, a boy would better be taken to Greenwood than to suffer the loss of a leg and an arm, and to-day the boy has a perfectly useful arm and a perfectly useful leg. The grave question in that case was the question of tetanus. His brother was injured a year before in a factory at Meriden, Conn., and died of lockjaw.

An admirable nurse was in charge of this boy, who was instructed at the least symptom of nervous trouble to call the Doctor, and on the fifth or sixth day she came very early in the morning and said the boy's jaw was rigid and he was unable to take his milk. The Doctor immediately ordered large doses of hydrate of chloral and bromide, and within a few hours the symptoms were relieved. If antitoxin had been used in that case the remedial benefits would have been attributed to that.

The Doctor referred to a case, in which the late Dr. Mitchell met with him some years ago, of pleurisy after scarlet fever, which brought to his mind the great difficulty to which Dr. Pilcher has alluded of ascribing to the proper remedy the cure of any case. This patient was looked over and Dr. Mitchell suggested putting the patient on full doses of cream of tartar. It was mixed up with molasses and the child was saturated with it, and the result was that the disease disappeared. Dr. Mitchell suggested that he had looked up the literature of these cases and had found a large number of prescriptions in which some one special remedy

had been vaunted as curative, and in almost every case some other remedy than cream of tartar had been given the credit of the cure, when in every prescription that he found cream of tartar was an ingredient.

The Doctor suggested that the same thing was true in the antitoxin treatment of diphtheria, that he had not found a single case on record where antitoxin had been used alone, and that he was not yet a convert to the belief in antitoxin treatment in diphtheria; he had never had any experience in its use in tetanus.

Dr. Warbasse remarked that to him the interesting feature attached to this particular case was the very short period of incubation, the child having sustained its injury and infection on Friday and the tetanic symptoms being first observed on the third day, Monday, which seemed to him a very remarkable thing, and he doubted if there could be found in literature a case of so short a period of incubation; that statistics of writers deal with cases in which the symptoms develop from the sixth to the tenth day from the time of infection, and that a mortality of forty per cent. is given in those cases. He further stated that at a meeting of the Kings County Medical Society, about a year ago, he reported five cases which he had had an opportunity of observing, and in those cases the symptoms developed from the seventh to the fourteenth day after the occurrence of the infection, and in all of them the result was a fatal one; that there seemed to be, especially in children, a great deal of difficulty in differentiating tetanus, the infective disease due to the specific bacillus, from certain nervous disturbances which have been described by most authors under the head of tetany, and which, in children especially, very closely simulate true tetanus. He had not seen a case of tetanus in which opisthotonus was absent, and this has come to be regarded as a symptom quite as common as spasm of the muscles of mastication. So that it would seem, if this case presented be a case of tetanus, it is certainly very remarkable—remarkable from the fact of its recovery, and remarkable from the bacteriological standpoint of the short period of incubation.

The Doctor stated that the antitoxin treatment of tetanus has passed the experimental stage; that when the magnificent statistics are noted which have been compiled by such accurate observers as Behring, Tizzoni, and Kitasato, it must be conceded that the injection of an immunizing serum certainly has a very pronounced inhibitive effect on the symptoms as well as an inhibitive effect over the particular ptomain at the nerve centers.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.

ARCHIVES OF CLINICAL SKIAGRAPHY. Edited by Sydney Rowland, B.A. Camb. London: The Rebman Publishing Co., Limited. No. 2, Vol. I, June, 1896.

This number contains plates or skiagrams of Anomalous Deformity of Hands and Feet; Sarcoma of Fibula; Revolver Bullet in Hand; and Fracture of Femur Extending into Knee-joint.

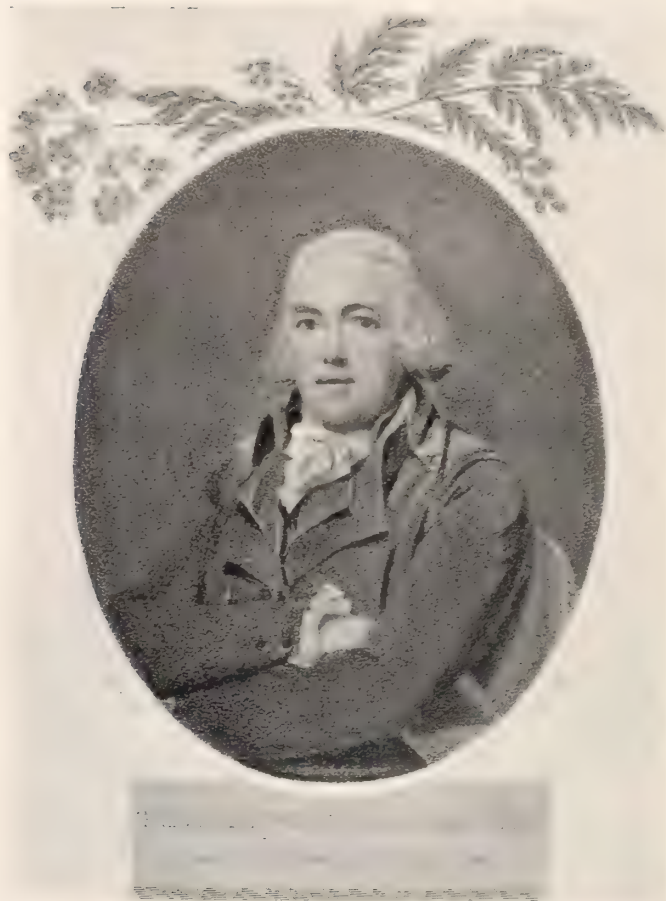
PLOMANS, LEUCOMANS, TOXINS, AND ANTITOXINS: OR CHEMICAL FACTORS IN THE CAUSATION OF DISEASE. By Victor C. Vaughan, Ph.D., M.D., Professor of Hygiene and Physiological Chemistry, and Frederick G. Novy, M.D., Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan. New (3d) edition. In one 12mo. volume of 603 pages. Cloth, \$3. Philadelphia: Lea Brothers & Co., 1896.

In no department of medicine has greater advance been made in recent years than in the chemistry of disease. When bacteriology became established, the increase of pathogenic germs and their accumulation in the blood and other tissues were regarded as holding causative relation to the diseases produced. Now it is to the chemical products of these germs that the diseases are attributed, and specific chemical agents are being more and more employed in their treatment. Both these facts are recognized by the authors under the title "The Chemical Factors in the Causation of Disease," and are the foundation of the treatise.

THE READY-REFERENCE HANDBOOK OF DISEASES OF THE SKIN. By George Thomas Jackson, M.D., Professor of Dermatology, Woman's Medical College of the New York Infirmary and in the University of Vermont, etc. New (2d) edition. In one 12mo. volume of 589 pages, with 69 illustrations and a colored plate. Cloth, \$2.75. Philadelphia: Lea Brothers & Co., 1896.

In addition to a thorough revision, the author has added to the first edition Sections on Acromegaly, Actinomyces, Angioma Serpiginosum, Baelzer's Disease, Cheilitis Glandularis, Clavus Syphiliticus, Dermatitis Repeus, Multiple Benign Cystic Epithelioma, Erythema Induratum, Erythema Elevatum Diutinum, Feigned Eruptions, Hydra Vacciniforma, Osteosis Cutis, Parakeratosis Scutularis et Variegata, and Parakeratosis.

Among the features of this handbook is the section entitled "Some Dermatological Don't's." In three pages the author has concentrated a mass of advice, which is well worth the price of the book to any practitioner.





JOHN BAPTIST MORGAGNI, M.D., F.R.S., ETC.

(THE FATHER OF PATHOLOGICAL ANATOMY).

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

EMPHYEMA OF THE GALL-BLADDER.

BY H. BEECKMAN DELATOUR, M.D.,

Surgeon to the Norwegian, St. John's, and the Long Island College Hospitals.

Read before the Medical Society of the County of Kings, May 19, 1896.

Among the abdominal diseases which should properly be considered surgical, it is now fairly established that inflammations and obstructions of the gall-bladder and biliary passages should be included. Simple inflammations of the common and cystic duct, occurring with gastro-enteritis, usually respond to proper medical treatment and never call for operative interference.

Secondary growths, such as gastric cancer or diseases of the pancreas, when they involve the biliary passages, seldom admit of surgical treatment. Gall-stones, in either the gall-bladder itself or in the bile passages, may exist for an indefinite period and yet never produce any discomfort. As a rule, however, they do produce symptoms which become more or less grave.

They may begin a passage through the bile ducts and produce the condition known as "biliary colic." This is a condition, as we all know from personal observation, which is accompanied by most excruciating pain, and which is seldom relieved until the stone either passes into the intestine or else drops back into the gall-bladder. These attacks may be repeated at shorter or longer intervals. The pain in such an attack may be so severe as to produce death, as has been recorded. If the stone becomes lodged in the common bile-duct, it may remain there and act as a ball valve; in this condition the symptoms vary, but there is generally fairly constant pain, with varying degrees of jaundice. This condition has been very fully described by Fenger* of Chicago, and requires no further comment here, except to call attention to the fact that with floating choledochus stone, in nearly eighty per cent., according to Courvoisier, the gall bladder is atrophied. When the stones collect in and remain in the gall-bladder, or when the bile becomes inspissated and thickened, the bladder becomes distended with bile, which gradually is changed into a thick, glairy fluid, and after a time the walls of the bladder become thickened and inflamed. This inflammation may take on the character of an acute suppurative cholecystitis, or empyema of the gall-bladder. It is this condition which I wish to briefly bring before you this evening. Among the causes other than gall-stones, we find inspissated bile, ulceration in typhoid fever, and probably infection directly from the intestine by the bacilli coli commune, etc.

In empyema of the gall-bladder we find the following symptoms presenting:

Pain is a constant symptom and is referred directly to the region of the gall-bladder. A history of previous attacks of pain in the right hypochondriac region, or of distinct attacks of biliary colic, may be obtained. After suppuration has begun, the pain becomes constant and is usually severe.

Tenderness over the region of the gall-bladder is also a constant symptom. It is usually found at a point just below the tip of the cartilage of the tenth rib on the right side. The tenderness is quite acute, sometimes as marked as in appendicitis.

Tumor can usually be found, but its size varies very greatly. It is possible for the enlargement to take place in a backward direction, so that, although the gall-bladder is greatly distended, it cannot be felt through the abdominal walls. In other cases

* *American Journal of Medical Sciences*, February and March, 1896.

the tumor has been so large that it has projected down to the pelvis, and has even been mistaken for an ovarian cyst. This is less likely to happen when suppuration has taken place. Aspiration of the tumor does not aid diagnosis much, as the fluid contained is frequently clear, having no appearance of bile.

Chills, while not always present, occur in many cases and may be very severe. Sometimes they appear at regular intervals, daily, tertian, or quartan, and may then lead one to believe the case to be one of malarial origin.

Jaundice is *not* a common symptom of empyema of the gall-bladder. When it is present it points to obstruction in the common, rather than in the cystic, duct. In none of my cases, which I have to report to-night, was jaundice present.

Fever is a constant symptom after suppuration has taken place, and usually runs an irregular course, being lowest in the morning and highest at night.

Constipation is present in nearly all cases.

Local peritonitis, with adhesions between the gall-bladder and transverse colon, develops in few cases. These may develop intestinal paresis or else obstruction of the colon by angulation, as evidence Case I, to be reported.

Differential Diagnosis must be made between the tumor of a distended gall-bladder, and the many other forms of abdominal tumor. In abscess of the liver, the cause, the general and local symptoms, the induration, and then the softening and fluctuation, and finally the outline of the swelling should be noted. In hydatid disease, the painless, slow course of the disease, the broad base of the cyst, the fremitus, and the results of tapping, usually will render the diagnosis possible. The early appearance of jaundice, ascites and enlarged spleen, would point to liver involvement rather than to any disease of the gall-bladder alone.

Floating kidney, and renal and ovarian tumors, have been mistaken for distended gall-bladder.

A point in differentiation from these conditions, is that, in gall-bladder tumor, the fixed base of the mass is above and not below, and besides, the biliary symptoms are usually present and distinctive. In diseases of the kidney, the changes in the urine would call attention to this organ. Again, renal tumors, when large enough to be felt distinctly through the abdominal wall, are rarely influenced by the respiratory movements.

In the differentiation from an ovarian cyst, exploratory punc-

ture is not always reliable, as the fluid in the gall-bladder frequently resembles that found in the large ovarian cysts.

In a few cases the symptoms resemble those of appendicitis to such an extent that a diagnosis is rendered very difficult. In these cases the tenderness is usually much higher than in appendicitis; the tumor, if it can be felt, is usually more or less movable at the lower portion, is distinctly rounded in outline, and can, as a rule, be traced to the free border of the ribs. A still more important symptom in connection with empyema of the gall-bladder, is the previous history of attacks of biliary colic, which may or may not have been accompanied by the development of jaundice.

The termination varies in the different cases.

1. The gall-stone or stones may pass through the cystic duct and thence on into the intestinal canal. In these cases the source of irritation and obstruction having been overcome, the changed bile and pus escape into the intestine, and the symptoms subside.

2. Adhesion between the gall-bladder and the stomach, some portion of the intestinal canal, or even the urinary bladder, may take place. This is then followed by ulceration and escape of the contents of the gall-bladder into the viscus. A number of instances are on record where the perforation has taken place into the lung, and bile has been coughed up in considerable quantities.

3. Adhesion to the abdominal wall, with ulceration through it, and escape of the pus and gall-stones through the skin, takes place in a small proportion of the cases. A large abscess of the abdominal wall may result from such an adhesion. In this case incision of the abscess gives vent to the pus and calculi. In these cases there usually remains a fistula which continues to discharge bile for months, unless closed by operative interference.

4. The most serious, and a not uncommon result, is for the gall-bladder to rupture directly into the peritoneal cavity. In these cases the rupture may be small and the local peritonitis established sufficient to shut in the material and produce an abscess below the liver and behind the colon. The development of encapsulated abscess is only about one-half as frequent a termination as it is to have the opening so large and the infection so great that an acute suppurative general peritonitis develops, and death rapidly ensues. In the former class, life may be prolonged for a number of months, as in a case reported to the Pathological Society during the past winter.

Treatment.—Abscess of the gall-bladder receives little benefit from medical treatment, other than the relief of pain and spasms, or the lowering of temperature. In some cases large doses of morphine are not sufficient to allay the suffering. In my experience, the hydro-bromate of hyoscine, hypodermatically injected, has given greater and more prolonged relief than anything else. The use of large doses of olive oil, etc., in order to dissolve or dislodge the stones, does not seem to be of any benefit after a suppurative cholecystitis has developed. Following operation the use of phosphate of soda, to prevent the possible reformation of calculi, may be of some benefit.

The surgical treatment will vary in the different cases. When an abscess has formed in the abdominal wall, this may be evacuated, and after the cavity has contracted down to a fistula, this may either close spontaneously or else may be closed by operation. Fistula, which remains after the spontaneous evacuation of the gall-bladder, after the incision of an abdominal wall abscess or after an operation, may be closed by dissecting away the fistulous tract, and then turning in the edges of the opening in the gall-bladder and sewing over with Lembert sutures.

Cholecystotomy, or incision of the gall-bladder, may be done either in one or two stages.

In the operation by two stages, the gall-bladder is sewn to the skin or aponeurosis of the abdominal wound, and then, after twenty-four or forty-eight hours, the gall-bladder is incised, cleared of its contents, and drained. Except in cases where the walls of the gall-bladder are very thin and will not hold a suture, there are no positive advantages in this method of procedure.

In doing the operation in one stage, the method of procedure is as follows: An incision is made along the outer edge of the right rectus muscle, and the peritoneal cavity opened. The tumor is then isolated and packed about with a thick layer of gauze sponges, so as to protect the general peritoneal cavity. The walls of the tumor are then seized with the forceps and an incision from one inch to an inch and a half is made in the fundus. This allows of the escape of the contents of the gall-bladder, and then any calculi may be removed from its interior by means of a dull curette. Next, a careful exploration of the biliary ducts should be made to see that no calculi are contained in them; particularly the cystic and common bile ducts should be palpated by the fingers passed down along the side of the bladder. If no calculi are found in these ducts, if the gall-bladder has been

thoroughly emptied, if the contents have been clear and did not contain much pus, and particularly if the walls are not very much thickened, the opening in the gall-bladder may be closed with Lembert sutures of silk or catgut, and the abdominal wound closed. Usually, however, it is safer to stitch the edges of the opening in the gall-bladder to the aponeurosis of the abdominal wound, and to insert a drainage tube into the gall-bladder. This can usually be removed at the end of a few days, and the fistula will gradually close.

Cholecystectomy, or removal of the gall-bladder, is indicated in those cases where there is very marked thickening of the walls of the tumor, and where there has been a large number of stones. The operation is performed by separating the bladder from the surrounding structures, and turning in the end of the cystic duct. This operation is followed by a mortality of about seventeen per cent., as compared with almost zero following cystotomy.

Cholecystenterostomy, especially favored by Murphy, is almost devoid of mortality, as performed by him with the metallic button.

This operation has several objectionable features, in that it does not remove the cause, and establishes an artificial communication between the bowel and gall-bladder, with the increased possibilities of infection from the latter.

Of the comparative values of cholecystotomy and cholecystenterostomy, A. W. Mayo-Robson, whose experience in this special work has been very great, says: "A largely increased experience leads me to say that there are very few cases of gall-stones which cannot be treated by cholecystotomy, if needful, supplemented by cholelithotripsy, the latter procedure being very occasionally assisted by needling the concretion. One of the arguments made use of by Dr. Murphy of Chicago, that cholecystotomy is frequently followed by biliary fistula, is quite contrary to my experience, and I cannot agree with him as to the desirability of performing cholecystenterostomy in gall-stone operations, except the patient be too ill to bear a long operation, or the cause of the obstruction be really irremovable."

In connection with this subject I wish to present the following cases:

CASE I.—On January 28, 1896, I was asked by Dr. Bruce to see Mrs. B., aged twenty-eight years, who was suffering with severe abdominal pain, with extreme tenderness on the right side. The history obtained was as follows: For some time she

had suffered with attacks of severe cramps in the upper abdomen. Five days before I saw her she was suddenly seized with severe cramp pains in the right hypochondrium. This pain continued, becoming more and more severe, and on the third day she began to vomit. The vomiting became more frequent, and still existed. During the period of five days no movement of the bowels was obtained, although cathartics and enemata had been given. When first seen, she was rolling about the bed, almost frantic with pain, although one-quarter grain morphia had been given within three hours. Examination showed marked tenderness over the entire abdomen, with a point of maximum tenderness at the outer edge of the right rectus, just above the level of the umbilicus. There was no rigidity of the rectus muscle, and no tumor could be discovered. There was no jaundice; urine, 1038; trace of albumin, hyaline, and granular casts; T., 101°; pulse, 100; R., 20. Laparotomy was decided on and performed that night. Operation through the lateral longitudinal incision, extending from the lower margin of the ribs to the level of the umbilicus, exposed a distended gall-bladder, with extensive adhesions between it and the transverse colon. These adhesions were broken down and the gall-bladder sewn to the edges of the abdominal incision by silk sutures. The remainder of the abdominal wall was closed. During the night the pain remained very severe. In the morning four ounces of olive oil in milk were given, and retained, and a few hours later a free movement of the bowels resulted. Eighteen hours after the operation the gall-bladder was incised and a single large stone removed. A drainage-tube was introduced and kept in place one week. Following the removal of the stone the pain rapidly subsided, and from then on recovery was uninterrupted. The opening into the gall-bladder closed without trouble.

CASE II.—A. L., Norwegian, aged twenty, was admitted to the Norwegian Hospital February 19, 1896. Gave the following history: Up to the beginning of his present trouble he had always been in perfect health. Three weeks before his admission to the hospital he began to have chills and fever, with abdominal pain. These continued for ten days, when the pain disappeared; nine days ago he began to have localized pain in the right hypochondriac region. This was sharp and radiated upward, the pain increased daily and has been accompanied by obstinate constipation. No jaundice; tongue was badly coated and patient had lost his appetite completely. On admission, T., 102°; P.,

108; R., 22. An attempt was made to move the bowels but without success. Examination showed marked tenderness over the right hypochondrium, especially opposite the tip of the ninth rib. A slight tumor could be made out. Operation, February 19th. Right lateral incision from point of ninth rib downwards for four inches: the gall-bladder was exposed and found much distended, and adherent to the hepatic flexure of the colon. Palpation along the cystic and common bile ducts failed to give evidence of stone. Gauze compresses were packed about the gall-bladder and an incision made into it. About four ounces of very thick mucus mixed with pus escaped. A careful examination of the interior of the gall-bladder failed to disclose any calculi. The edges of the viscus were then sutured to the abdominal wall and the lower three-fourths of the wound closed.

The patient reacted well and the next day had a copious movement of the bowels. His pain gradually subsided. The discharge of inspissated bile continued for three weeks. The fistula gradually closed. No trace of stone could be found in either the discharge or the feces.

These cases resemble each other in that attempts to move the bowels were futile, and in giving a history of previous attacks of pain resembling biliary colic. In the second case the obstruction was probably due to inspissated bile.

CASE III.—Mrs. M. A., aged thirty-five, was referred to me by Drs. Essig and Beardsley. Five weeks before being seen she was attacked with severe abdominal pain in the right side, fever and rapid pulse. At this time it was only with difficulty that the bowels were moved. From the beginning of the attack prostration was so great that it was not considered safe to transfer the patient for operation. The pain was referred to a point opposite the umbilicus, was piercing or tearing in character, and radiated into the back and right shoulder, and down the leg, terminating in the right heel. This pain was increased by pressure or deep inspiration. This attack lasted about a week, and then subsided. The diagnosis of appendicitis was made at this time by the attending physicians. The day before being seen by me the symptoms returned, but without the extreme prostration; the pain was referred to a point nearer the margin of the ribs than on the previous occasion. There was more or less vomiting and constipation, which was easily overcome. There was no jaundice. Examination: Temp., 100.2°; P., 80; R., 22. Just below the free border of the ribs, and to the outer side of the right rectus,

was a point of extreme tenderness, and the presence of a tumor could be easily made out. Op. r. l. incision exposed the gall-bladder. Appendix was found to be perfectly healthy, but was removed. The gall-bladder was opened and a quantity of purulent mucoid fluid escaped, and with the curette forty-five gall-stones were removed. The edges of the wound of the gall-bladder were then sutured to the peritoneal edges of the wound in the upper angle, and the lower part of the wound closed. The opening into the gall-bladder was then packed with iodoform gauze. At a subsequent dressing several more stones were removed.

This case is interesting from the difficulty in making a diagnosis in the early part of the disease, and more especially on account of the severe prostration with which the pain was attended. Several cases have been reported in which death has been ascribed to the shock to the nervous system by the onset of the sudden severe pain.

CASE IV.—Mrs. E. W., aged thirty-nine. Admitted to the M. E. Hospital, with the following history :

Present Trouble.—Two days ago she was suddenly taken with severe cramp-like pains in the abdomen, centralized at the umbilicus. She tried to induce vomiting to relieve them, but could not. Twenty-four hours later the most tender point moved to the right, where it now is. Her bowels are rather loose. She tells of a similar attack about one and one-half years ago, following labor. Then the tender point was lower in the iliac region. She is subject to attacks of indigestion. Her bowels are, for the most part, constipated, except during menstruation, when she suffers from diarrhea. She has no bladder symptoms.

Examination.—There is well-marked tenderness, beginning in the epigastrium and extending about three-fourths of the way across the right hypochondrium. There is a well-marked tumor, the size of an orange, at the sight of the gall-bladder.

Urinary Analysis.—Acid; sp. gr., 1040; Albumen, .2 of 1 per cent. (Esbalt), heavy granular deposit. Many epithelial cells and leucocytes; hyaline and granular casts. When admitted to the hospital, (1) pulse, 120; (2) respirations, 28; (3) temperature, 101.4°.

This case was operated by Dr. Fowler. The gall-bladder was exposed by an incision from the free border of the ribs, downward for four inches along the outer edge of the right rectus muscle. The tumor was isolated and then opened, allowing the dis-

charge of considerable glairy mucus and pus, and one large calculus. Exploration of the cystic and common ducts failed to show the presence of any more stones. The edges of the wound in the gall-bladder were then sutured and the line of union placed immediately next the abdominal wound. The abdominal wound was closed, except at the upper angle, which was packed with iodoform gauze down to the situation of the gall-bladder.

This case did nicely until the second week, when the patient had several chills, followed by a rise of temperature. The wound was then reopened and the gall-bladder found to be again distended with pus. The line of suture was broken down, and the cavity evacuated and drained. Since then the discharge has gradually diminished and changed to clear bile. A small fistula still persists.

This case illustrates the advantages of draining the gall-bladder for a time, when the walls are thickened and the contained fluid is purulent.

DISCUSSION.

Dr. E. H. Bartley: May I ask Dr. Delatour just one question? In regard to the pain in these cases, is the pain ever intermittent; that is, does it come on and stop without the use of opiates, and then reappear at intervals of ten, twelve, or twenty-four hours, or when it once sets in is it almost constant?

Dr. Delatour: After suppuration has begun I think the pain is always constant. Before that, from the presence of the stone simply, the variations in the pain, the appearance and disappearance of it, I presume, can take place; but in all cases that I have seen, where there has been actual suppuration, the pain has been severe and constant.

Dr. J. B. Bogart: Mr. President, I have been very much interested, as well as instructed, in listening to the Doctor's very able paper upon this topic, which I think is one which interests us all. We all have to do with these cases of gall-stone colic, and it is very gratifying to know that most of them can be radically relieved, so that, nowadays, a patient need not go on having attacks, year after year, of colic, varying from a few days to weeks or even months, but may be relieved and cured, as a rule, by not too severe an operation.

I think, however, that one would gather, from the Doctor's paper, almost too rosy a view of these cases. The cases he has related, I think, are fair examples of those usually met with. A

recent experience I have had leads me to believe there is still another class, to which attention has not been called in this particular paper.

A patient between fifty and sixty years of age, perhaps nearer sixty, a woman, was brought to my notice by Dr. Catlin of this city. She gave a history of a number of attacks of abdominal pain, extending over a period of years, and of having had a number of attacks of jaundice of varying degree. When I saw her she was then suffering pain, she was moderately jaundiced, and there was a very extensive enlargement of the liver. The lowest point of the right border extended downward two inches below the umbilicus. The notch between the right and left lobe was very marked after passing this point of the liver, so that it stuck up; then there was a deep notch, so that the left lobe of the liver did not come down to within an inch or more of the umbilicus. The left lobe was also considerably enlarged. There was certainly a very much enlarged liver, and the history and the symptoms, together with the jaundice, pointed to the fact that the gall-bladder was at least somewhat involved. The patient also had disease of the kidneys, and had a tubercular process in the right lung, but the abdominal symptoms were so marked that it seemed proper to make an exploratory incision. That was made over the region of the projecting portion of the liver, and on opening the abdominal cavity the liver was adherent to the anterior abdominal wall, adherent to the transverse colon, and adherent to the gastro-hepatic omentum, so that no view could be obtained of anything until considerable dissection was made, tearing away the adhesions, and then was uncovered this projecting point of the liver, which overlapped the gall-bladder, which was so changed in appearance that my only guide was the fact that it was where the gall-bladder is usually found, and that it must be that. I introduced a number of sponges to protect the region, and placing the patient on her side, I introduced a large trocar into the bladder, but only succeeded in getting out through that a very little very thick inspissated mucus. It would not run. I removed the trocar and with a knife made an incision. Then there flowed out just a very little inspissated mucus, and I introduced my finger and scraped out something more than one hundred very small gall-stones, apparently of recent formation. I may say that before the incision was made, however, I had palpated the ducts and found the cystic duct enlarged, certainly larger than my index finger, and I could feel stones at two points in it. In

the hope of being able to get them out through the opening I had made, I introduced my finger and tried to work my way into the duct, so as to loosen the stones. I found that impossible, so I dissected away the omentum still further and made an incision into the duct over the stones, and succeeded in removing them; one in pieces and the other entire. In making this incision, the thickness of the duct at that point was certainly more than a quarter of an inch. It is almost impossible to imagine the changes that had taken place there. After removing the stones, I sutured the edges of the duct, which was very thick and resisting, with a running suture of catgut, and then attempted to bring the *end* of the gall-bladder up to meet the abdominal wound. It was so overlapped by the projecting edge of the liver, and so friable, that it was impossible to make a complete suture of the end of the gall-bladder to the abdominal wound, so I was obliged to provide for drainage, which I did through the lower end of the anterior incision, and also through the lorn just above the right kidney.

The patient bore the operation very well, but soon after, vomiting, which had previously existed, set in, and continued until the patient's death, on the third day after the operation.

An autopsy was had and I intended to bring the specimens, but forgot them. It showed that the common duct was entirely clear and normal, and it was possible to pass a probe through the whole length of it into the duodenum. The incision that had been made to remove the stones had closed completely. There was no pus in that portion of the abdominal cavity through which the drainage was made, both by rubber tubes and by gauze, and there was really nothing more found at the autopsy than had been found at the operation. The vomiting seemed to have been kept up by the condition of the kidneys, and that was what determined the death of the patient.

I do not speak of this case in order to show that all, or nearly all, are fatal, but simply to show what these cases, being neglected, may come to, as an extreme case.

This case also called attention to another feature: that no operation for relief of the empyema or of the gall-bladder is complete unless the obstruction is removed from the cystic duct, for as long as the obstruction remains there the opening in the cavity will not close, and the opening of the gall-bladder, without clearing the duct, would not be of any service whatever. This is a point to be emphasized in all operations for the relief of troubles

connected with any of the ducts—that the obstruction, as well as the empyema of the gall-bladder, must be removed, wherever it may be.

I wish to emphasize the fact that this case is an unusual one, and that most of these cases are very much simpler, and can be conducted to a successful termination, as shown by Dr. Delatour's cases, as well as by other cases that have come under my notice.

I have seen one case that was mistaken for appendicitis, and that happens from time to time, but as they are both conditions which demand surgical interference, no harm is done in making such an error as that.

Dr. Van Cott: I remember one case which is somewhat apropos of the subject, in which Dr. Rushmore operated, in the Brooklyn Hospital, on a colored woman, where the gall-bladder had acquired a thickness of at least a quarter of an inch. The patient died because of the fact that the lymphatics of the walls of the gall-bladder had become infiltrated with purulent matter. In spite of the fact that the operation succeeded in removing all pus and stones from the cavity of the bladder, general peritonitis resulted, and the patient died, with a large quantity of pus in the peritoneal cavity.

I have had myself a growing belief in the necessity for early diagnosis of biliary calculus. It certainly must be so; that when stones get into a viscus like the gall-bladder, especially if the stones be pointed, the time is bound to arrive ultimately when infection will occur. The membrane is traumatized at that inopportune moment when septic organisms lurk in the gall-duct, and the resistance of the patient himself is lowered; then comes the infection which threatens the life of the individual. I think it is quite as important an operation as that of appendicitis.

With regard to the differential diagnosis between empyema of the gall-bladder and appendicitis, I had a number of interesting experiences in finding the appendix attached to the lower border of the liver. It not so infrequently happens that a very long appendix will course upward, the end of it becoming attached to the lower aspect of the liver; and I should imagine there would be great difficulty in the differential diagnosis between the two conditions.

Dr. de Forest: The paper is instructive and shows not only the success which has attended the surgical efforts of the reader of the paper, but also the advances which have been made in the past few years in abdominal surgery.

It is somewhat comforting to remember, however, that many similar cases, which occurred perhaps twenty years ago, were cured by natural processes. It so happens that within the past few months two such cases have come to my notice: both were accidental findings at autopsies, and both conditions undoubtedly represented what at one time had been an empyema of the gall-bladder, which had gone on to spontaneous cure.

The two conditions were quite curious and quite distinct. In one case the cystic duct was entirely occluded. There was one large calculus, and surrounding that was perhaps about an ounce of fluid which much resembled glycerine, being perfectly transparent and of a thick, viscid character. The walls of the gall-bladder were thickened and gave evidence of long-standing inflammatory process. In the other case an exactly opposite condition had occurred, and the deposit, due to the inflammatory changes, had been upon the walls of the gall-bladder: if you can image a hen's egg with the shell one-eighth of an inch in diameter, you will have a fairly good mental picture of the condition in this particular case. The deposit, owing to long-standing inflammation and subsequent calcareous degeneration, was entirely upon the outside, leaving a glairy fluid within the cavity. There was no calculus. The cystic duct was obliterated in this case also. The only case that I have seen in the living person was the one last year, referred to by Dr. Delatour, that was presented to the Pathological Society. The inflammatory changes caused adherence between the hepatic flexure of the colon and gall-bladder, and rupture occurred between the two; the gall-stone was discharged into the colon and was passed per rectum. The septic process in the gall-bladder then subsided. The diagnosis had been made at the time of attack, but an operation was declined. She recovered from the attack after the gall-stone had passed, and finally died of other intercurrent disease. An autopsy revealed the exact condition of things.

Such cases show that even where surgical interference is not resorted to, nature occasionally remedies the matter in her own way.

Dr. Beardsley: I have had two cases, which have been referred to by Dr. Delatour.

Dr. Delatour: I brought this subject up from the fact that I believe it is an exceedingly important operation. As Dr. de Forest has said, many cases go on to recovery without operation. Still, it is true of the cases that go on to spontaneous cure, that

the progress of the disease is slow and fraught with danger at every point.

Besides the cases reported here, I have seen three cases on which I have operated, where abscess of the abdominal wall has been the result—adherence of the gall-bladder to the abdominal wall, and suppuration into the wall. In two cases the abscess had not perforated through the skin; in the third case it had.

In those cases the history was a long one, and was accompanied by the general evidence of sepsis. One case, in particular, was an old lady sixty-five years of age, who presented a large abscess, just above the crest of the ilium. I incised it and evacuated pus, and at the bottom of the cavity, external to the muscles, I found a small opening, which I enlarged, and got into a second pus cavity between the muscles and the peritoneum. Her condition was very bad, and I did not follow it up any further, but packed the wound. I might add, the pus contained a large number of small, black particles, which were evidently broken-down bile-stone. I packed the wound, and it gradually closed down and left a fistula, which, two months after the original operation, was excised and the opening into the gall-bladder closed by a Lembert suture, and the abdominal wound completely closed. She made a good recovery, as did the other two cases, but all three cases were exposed to danger during the whole course of the disease.

Again, gall-stones, when they begin their passage through the ducts, are dangerous, and if the stone becomes lodged in the duct, the operation is much more serious and much more difficult.

The operation of cholecystotomy can be completed, usually, within a half an hour. The operation of opening the ducts, particularly the common duct, is an operation which will take over an hour in all instances. It is not necessary, though, in operating on the bile-ducts, to suture the opening made in the duct, as writers on that subject are pretty well agreed now.

Where jaundice exists, it is fair evidence that the obstruction is in the ducts, and not in the gall-bladder itself, and with jaundice present, the danger of hemorrhage is very much increased. The presence of the bile-pigment in the blood seems to produce or bring about a change which renders coagulation difficult, and hemorrhage is much more liable to occur.

I think Dr. Bogart's case should be put down as death due to kidney condition, and not to the operation or the liver condition.

Murphy's operation of cholecystenterostomy is looked upon with disfavor by men who have done a good deal of this work, because it simply establishes an opening between the gall-bladder and some portion of the intestinal tract, without removing the stone or obstruction which may exist in the ducts, and it seems to me perfectly possible that the bacilli contained in the intestinal tract can find their way back through the opening into the gall-bladder, and finally infect the gall-ducts.

The point which Dr. Van Cott makes as regards the diagnosis between empyema of the gall-bladder and appendicitis, in those cases in which the appendix comes up high, I would answer in this way: I have seen a number of these cases, but in all cases where the appendix came up in that way, it has come up behind the colon, and the tenderness in the appendicitis followed the posterior muscles. The most marked tenderness is along the deep muscles of the back, and between the lower edge of the ribs and crest of the ilium, whereas the tenderness in empyema of the gall-bladder is always in front, although the pain is referred to the back as well as the abdominal surface.

A point of interest is the question of suturing the gall-bladder completely and closing the abdominal wound. It was objected to, at first on the ground that the bile would digest the suture material and the dangers of peritonitis would be very great. This is pretty conclusively proven to be false, and it is believed that it is just as safe to open the gall-bladder and suture it, as it is the intestine, or any other of the abdominal viscera, and expect union of the peritoneal surfaces to take place and completely close the opening.

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THE LONG ISLAND COLLEGE HOSPITAL.

The regular term of the college began September 28th, with the largest number of enrolled students it has ever had. The medical class will exceed three hundred, of whom eighty are candidates for graduation.

The Polhemus Memorial Clinic, which is to be the future home of the college and dispensary, is being constructed with a solidity which would withstand an earthquake. It will be roofed in by December, and be ready for occupancy when the four years' course of instruction goes into effect in September, 1897.

THE ARTIFICIAL FEEDING OF INFANTS.

BY HENRY A. BUNKER, M.D.

Read before the Medical Society of the County of Kings, June 16, 1896.

Among the problems confronting the medical profession, there is probably no one of greater importance than that of devising a proper method of feeding infants deprived of nature's direct supply, involving, as it does, not only the immediate welfare of the infant, but that of the future individual, and even of future generations. Not only this, but many a debilitated and impoverished mother is urged to force herself to continue nursing her offspring to her own as well as her child's permanent detriment rather than face the difficulties and dangers attendant upon any available method of artificial feeding.

A glance at the mortality tables of infancy will suffice to show that the question of infant-feeding has not yet arrived at a satisfactory solution, furnishing, as they do, an interesting commentary upon the efficiency of the numerous so-called perfect foods, which shrewd advertising has made so successful—commercially.

While it is true that many babies appear to thrive upon the most illogical and nondescript diet—during babyhood—they are never fully nourished in the broadest sense, some vital defect or deficiency, or perhaps the results of overtaxed digestive powers, becoming apparent in childhood and later life, as developmental disturbances or as diatheses and dyscrasias.

It is within a very wide variation in digestive and assimilative powers that the family physician must exercise his judgment and skill, and often his ingenuity as well, to meet all the requirements of complete nutrition and to insure physiological ease of digestion.

Naturally, the first thought is for a food approaching as nearly as possible the composition of human milk, as given in the textbooks and published analyses, and as aids to this there have arisen numerous food preparations which, it is claimed, will meet this requirement. That they have not fulfilled their purpose clinically, every physician's experience will attest.

Does the fact of the large proportion of failures and few comparative successes prove absence of food value, or wide divergence from the standard—human milk—in percentage composition? By no means! It need not be doubted that every milligram possesses its proper proportion of nutritive value, particularly in the test-tube, while ease of digestion and assimilation may be widely open to question, and must remain so until nature's methods of synthesis are better understood. The definite percentage composition representing the proportional average food-values found in human milk is now fairly well known, but the synthesis of these or analogous substances into even a fairly assimilable compound, giving full nutrition, has not as yet been accomplished in the laboratory.

The food elements essential to proper and full development are proteid and mineral substances, carbohydrates, and fats, in suspension and solution, in a fairly definite proportion of water, and of varieties and in condition to be digested with the least effort.

In spite of claims made in the literature accompanying the various baby-foods, as to the close similarity and even identity of composition with human milk, investigation shows wide and vital variations; all, with the exception of plain condensed milk and the so-called cream mixtures, contain starch and dextrin—substances foreign in every sense to infant powers of digestion. These, with cane-sugar or maltose, represent the carbohydrate elements. The fats are present as cream from other milk, or as animal and vegetable oils.

As proteid and mineral bodies, we find in the class known as milk foods the dried milk albuminoids, with some malted or roasted cereal, while in the cereal class the vegetable proteid is the sole albuminoid, and often, mineral representative.

Upon a comparison of the composition, biologically, of these mixtures with that of human milk, the wonder is that so many infants survive their administration; and, as a matter of fact, I have never found them to supply full nutrition. The starch and dextrin are not digested, for want of the appropriate ferment, and are passed out with the feces as starch and dextrin, frequently setting up intestinal irritations en route, while the more or less intractable vegetable proteids resist the infant powers of digestion, giving as a result an insufficient supply and deposit of mineral salts. The carbohydrates and fats are absorbed, as a rule, without difficulty. On this account, and, I believe, only on

this account, do these foods, when they agree at all, make fat babies.

I think I have never failed to note deficient bone-formation under the use of these foods, if not always in infancy, as shown in difficult or defective dentition, with late closure of the fontanelles and other evidences of a condition approaching rachitis, then later on in childhood in early decay of the teeth. I am satisfied that this defect and early decay is not limited to the temporary teeth, but usually, if the difficulty is not recognized and relieved, involves the permanent set also.

All these foods show an acid reaction except the "cream mixtures," and they are too strongly alkaline. None of them is sterile, which, in view of the relatively small amount of free hydrochloric acid in the infantile stomach, is a matter of considerable importance; for the preparatory cooking cannot be depended upon to insure sterility. Finally, all, with no exception of which I am aware, contain materials either wholly foreign to the infant digestive function, as the starch and dextrin mentioned above, which pass off without change, except that of putrefactive fermentation, or are so resistant that digestion only occurs by forced and prematurely established powers, and at the expense to the system of energies more urgently needed in other directions.

Measured, then, by the double standard of full and complete nutrition, together with physiological ease of digestion and assimilation, the artificial and ready-prepared infant foods are found wanting in at least one, but generally in several vital particulars; for, while it is true, as stated above, that babies possessed of particularly robust digestion may and often do seem to thrive during infancy, they are almost sure to carry with them during life some vice of constitution due to some vital deficiency or to overtaxed digestive powers, unless these faults are corrected during early childhood.

Fat babies do not necessarily become well-nourished children, and if the fat of infancy is obtained at the expense of tissue formation of greater stability, the deficiency will soon become apparent.

Voit produced in young, undeveloped animals changes in structure similar to those occurring in rachitis by withholding lime salts, and the same result is equally brought about by the well-intentioned though mistaken use of the nursing-bottle.

That the full story of these tragedies of the bottle is told in

statistical tables of infant mortality I do not for a moment believe. Like all serial narratives, it is continued, not only in the next, but in subsequent stages of life: not only in structural defects and lack of resisting powers, but in vitality itself.

That all these defects, and also others, may be and frequently are transmitted by a faulty mother or a vicious heredity, has nothing to do with the case, for, were artificial feeding as physiological as it should be, such conditions would soon lose much of their importance. The accomplishment of this end will not be the discovery of a food of universal application, for in any system or method of feeding the biological element must figure more largely than the simply chemical: and any chemical demonstration of nutritive value must prove worthless in the absence of ease of digestion and assimilation.

Fortunately, in cow's milk we have a strictly biological compound—a natural product adapted in its composition and purpose to tissue-building, and at a cost much below that of any of the prepared foods. Unfortunately, however, being intended for a more rapid and vigorous tissue growth and more robust digestive powers than are possessed by the human infant, it must be modified accordingly.

Quantitatively, cow's milk is nearly twice as rich as human milk in proteids, nearly four times as rich in salts, and about one-third poorer in sugar—the only carbohydrate—and somewhat poorer in fat. A comparison between Hammarsten's table for cow's milk and Soeldner's table for woman's milk—which latter I quote from Professor Wiley's paper on "Recent Advances in Milk Investigation," read at the April meeting of the New York Chemical Society—shows well this difference:

COW'S MILK.		WOMAN'S MILK.	
Proteids.....	3.41 per cent.	Proteids.....	1.52 per cent.
Fats.....	3.65 " "	Fats.....	3.28 " "
Sugar.....	4.81 " "	Sugar.....	6.50 " "
Salts.....	0.71 " "	Salts.....	0.27 " "
	—	Citric Acid.....	0.05 " "
Total Solids...	12.58 " "	Undetermined...	0.78 " "
			—
		Total Solids...	12.40 " "

If this were correct qualitatively, as well as quantitatively, it would only be necessary to dilute cow's milk and add a little sugar and cream to bring it to the human standard. But in prac-

tice, as in the case of the different varieties of "cream mixtures," this is found to be as little successful as are the prepared foods. Any satisfactory modification of cow's milk must be based upon a better understanding of the relative difference in the character of the proteids, as well as of the changes which take place in the process of secretion; of those which occur during digestion and of those brought about by the enzyme or enzymes originating in the milk-glands, as suggested by Hammarsten and recently demonstrated by Bechamp.

The essential qualitative difference, particularly as to digestibility, between cow's and woman's milk, lies in the proteids. The casein element in woman's milk certainly behaves under reagents very differently from the same body in cow's milk, being precipitated with greater difficulty by acids and salts, and coagulation by rennet being irregular and uncertain; all casein is alike in being at first precipitated by the gastric juice and in dissolving, later, in excess of the same.

Referring again to Professor Wiley's paper, we find the statement that "woman's milk differs from cow's milk in containing neither casein nor caseinates, but special proteid bodies, and also a galactozyme or galactozymose, functionally very different from that which exists in cow's milk." And again, in referring to Soeldner's table, he says of the "0.78 per cent. unknown, so-called extract matter," that it "is chiefly composed of nitrogenous bodies, but they are not the ordinary milk proteids," and further, "it is certain that the nitrogenous decomposition products of proteid matter which are found in the blood are found uniformly in the milk," the chief of which are "urea, hypoxanthin, kreatinin, sulphocyanic acid, and lecithin." Professor Wiley also quotes Soeldner's calculation of extract of nitrogen in woman's milk at nine per cent., as against six per cent. in cow's milk.

These statements are of extreme interest as furnishing a possible reason why attempts at modifying cow's milk to human infantile needs has not been hitherto more successful.

All of the work of biological chemists in recent years, as of Chittenden in this country, Kuehne, Fischer, Drechsel, and others in Germany, has shown the digestive process to be a series of hydrations, each step resulting in a soluble and an insoluble portion as cleavage products, to final breaking down of the original proteid. The hydrolytic cleavage products resulting from the action of each of the proteolytic enzymes concerned in the process of digestion, with the exception of the rennet, have been well

studied. Thus, according to Kuehne, the effect of pepsin-hydrochloric acid on proteid material is to break it down into anti-albumid with the antecedent antialbumat, the hemiportion being represented by hemipeptone with the antecedent hemialbumose.

It is interesting to note the similarity, or, at least, the analogy between this antialbumat and casein, even if the resemblance does not extend to the other constituents of the digestion products and of milk; both are precipitated from solution by neutralization: each remains unacted upon, or very slightly so, when digested with pepsin and acid, and both are promptly dissolved in an alkaline solution of trypsin, which, at body temperature, converts both into antipeptone.

A further interesting fact is that of the similarity of the final hydrolytic products of casein as compared with those of other proteids, viz.: nitrogenous bodies and a carbo-hydrate, as pointed out by Pavy. Pavy's results were obtained from the acetic acid precipitate of casein, and gave a sugar percentage much below that of other proteids—0.2 to 0.4 per cent. With casein coagulated with rennet, I have obtained 1.50 to nearly two per cent. of a cupric oxide-reducing body, giving, with phenyl-hydrazine and sodium acetate, abundant osazone crystals of blade-like spines, with lance-shaped, rectangular projections. This result must not be considered absolutely correct, on account of the difficulty of completely washing out the original lactose in the milk, after rennet coagulation, although otherwise Pavy's titration methods were employed.

Pavy argues, from the low percentage of carbohydrate he obtained, that casein and lactose exist in milk as complementary cleavage products, the hydration occurring in the process of secretion by the gland. If this contention is correct, and the facts would seem to justify it, an interesting light is at once thrown upon the differences existing between cow's milk and woman's milk, as shown in the tables quoted from Hammarsten and Soeldner, and renders extremely plausible an assumption that woman's milk represents simply a further hydration than does cow's milk of practically similar original proteid material: and this, again, would make necessary another assumption, viz.: that the enzymes formed in the human milk-gland are endowed with a more powerful hydrolytic action than are those of the cow. Whether or not we are justified in adopting such hypotheses, it is certain that the difference shown in the tables quoted represents very closely the changes that would occur under such con-

ditions, the proteids in cow's milk being greater in amount than in woman's milk by 1.89 per cent., while the quantity of sugar in woman's milk is greater by 1.69 per cent.

This is submitted as a fairly close estimate in an average determination, particularly in a material so variable in composition. The lactalbumin of woman's milk cannot be considered a cleavage product, and might, perhaps, make the difference greater if the estimate is based upon the true casein content, but as an offset to this we must take into account the 0.78 per cent. nitrogenous extract matter, which is a true cleavage product, coming from the hemi group. In this connection, it is well to recall again Soeldner's calculation that this extract nitrogen represents in woman's milk about nine per cent. of the total nitrogen present, as against about six per cent. in cow's milk.

The larger percentage of salts in solution in cow's milk is probably simply the extra amount required to meet the greater demand in the calf, and would have little or no bearing on human digestion or nutrition—the excess being thrown off—but it is very different with the mineral matter in proteid combination. In the character of its chemical union with these bases, particularly with lime, casein is seen to have rather strongly acid properties, which it loses during the first act of the digestive process. The coagulum thus formed by contact with the rennet enzyme has no longer the power of holding calcium phosphate in solution; it is readily soluble, however, in very dilute solutions of sodium carbonate, not forming a caseinate of sodium, but breaking down into a proteose having a much lower carbon content, the carbon thus set free or split off going to form a carbohydrate, lactose, or some further hydration product, and nitrogenous bodies—the amido-compounds.

In the course of digestion this action of the sodium carbonate is aided and accelerated by the trypsin ferment, but the entire process is still one of hydration, and brings down the casein of cow's milk to a composition very similar, chemically at least, to the corresponding constituent of human milk.

The other decomposition products mentioned above, as urea, hypoxanthin, lecithin, etc., although found in extremely small quantities, according to Soeldner, fall regularly into line as results of the condition of further hydration, which it is here assumed constitutes the essential difference between woman's and cow's milk, and which assumption is entirely in keeping with the persistent

alkalinity of the former as compared with the initial alkalinity and early subsequent acidity of the latter.

A slight study of the proteolytic enzymes involved in the digestion of milk, with special reference to the sequence of the resulting products, would seem to carry out this resemblance still further. First, the acid-acting pepsin, in combination with its accompanying curdling enzyme—rennin—brings about the formation of syntonin or parapeptone from the albumins, together with coagulation of the casein, in slightly acid or neutral mixture. This mixture is then brought into contact with the third proteolytic enzyme—trypsin—in alkaline solution, accompanied also by a curdling agent. Here, according to all recent observers, the process of proteid digestion seems to end in the final splitting up of the proteids into true peptone and the amido compounds, all nitrogenous. At each step in this progressive hydration, however, there is split off another body containing no nitrogen—the cleavage carbohydrate mentioned above—upon which is left the marks of each hydrolytic change, until the final glucose is reached. These successive carbohydrate splittings may be traced by their behavior in reducing cupric oxide—taking the reducing power of glucose as the unit—and by the character of the osazone crystallization produced when treated with phenylhydrazine and sodium acetate, as pointed out by Pavy. I have held this view, however, of the proteid origin of at least a large proportion of the physiological carbohydrates for several years, but not being a chemist, I have never been able to classify them in their proper relation to their corresponding proteoses of the nitrogenous group.

In this view of the case, lactose, as a cleavage product split off from proteid material by glandular action, would occupy an intermediate position in the progressive scale of hydration from glycogen or animal starch, to the final glucose, galactose being the immediate succedent.

All investigators are agreed that a wide distinction exists between the proteids of cow's and of woman's milk, although, on account of the difficulty of obtaining a satisfactory precipitation of these constituents of woman's milk, there is considerable difference of opinion as to their true character; certainly, their behavior under the ordinary reagents gives abundant reason for assuming that some profound change of structure has been brought about—presumably in the nature of simplification. If this assumption is correct, peptones, or at least proteoses, should

be found in human milk, although their existence has been denied by many competent observers.

To determine this point, I secured—fortunately all at one sitting—eighty c.c. of woman's milk and treated it immediately with a hot saturated solution of phospho-tungstic acid. This reagent threw down a rather dense precipitate, of which a portion—estimated at one-tenth—was accidentally lost. The remainder of the precipitate, after extraction with ether and in a water-free state, weighed 0.861 gm. This did not represent the entire proteid content of the milk; nitric acid added to a portion of the filtrate from the phospho-tungstic precipitate gave a slight turbidity, and nitric acid, plus excess of sodium chloride, gave a much denser precipitate, clearing up on heating and reappearing on cooling, thus proving the presence of both proteose and deuteroproteose. The entire carbohydrate content seemed to be retained in the filtrate, which gave abundant osazone crystals, but not those of lactose. These crystals were in the shape of rather small rosettes, made up of a dense mass of radiating needles—in fact, just such a crystallization as is obtained after incomplete or partial hydration by boiling proteid material with hydrochloric or sulphuric acid, and were very similar to those of maltosazone.

A portion of the precipitate treated with cupric sulphate and solution of potassium hydroxide gave, on the first addition of the alkali, a violet color, which gave way later to the biuret pink, with no trace of violet or blue, showing the presence of at least a preponderance of proteose or peptone.

Acetic acid, also nitric acid with added sodium chloride, gave the proteose reaction as in the filtrate, but a solution of the precipitate in calcium chloride gave no coagulum on addition of rennin, showing that whatever unchanged proteid was present, it was not the casein of cow's milk.

If these results mean anything at all, they prove that any attempt at modifying cow's milk for infant feeding must be along lines of hydration.

It is a noticeable fact that efforts in this direction, as now employed, are successful only in infants possessed of robust digestive powers, and of these, two only seem to be worthy of consideration—sterilization and partial peptonization. The sole object of sterilization is the destruction of microorganisms, but, unfortunately, the high degree of heat continued for the necessary length of time brings about certain changes of another kind

which certainly increases the difficulty of digestion. These changes take place also to a less degree under the lower heat of Pasteurization. By neither method is the difficulty remedied by previous or subsequent addition of water, and is probably due, in a large degree at least, to coagulation of the albumins.

Whatever it is that takes place, it is certain that heat-sterilization renders the proteid molecule more resistant to the disintegrating forces of the digestive ferments, and as a result we find a majority of infants so fed presenting characteristic digestive disturbances.

During my first summer's experience with sterilized milk, of fourteen babies so nourished, in eight there was obstinate constipation, characterized by hard, dry, chalky white feces, having little or no fecal odor. In all of these, and at times in the others also, the urine was pungent with free ammonia. These conditions must be considered as due to imperfect breaking down of nitrogenous material with probable fermentation of the residue.

Some very interesting chemical questions are involved in this state of affairs: a sterile food supply acted on by normal digestive ferments and the non-pathogenic microorganisms of the intestinal tract, gives rise to a fecal excrement having little or no fecal odor, showing a total or at least partial absence of decomposition products of the aromatic group, as indol, skatol, and the phenols. With this condition as to the solid excrement the urine is heavily charged with free ammonia, whose prompt disappearance on the administration of sodium benzoate—benzoic acid being phenyl-formic acid—furnishes a possible clue to the function of the aromatic compounds of the intestines.

At all events, there can be little doubt that the resistance of the milk proteids to digestive action is much increased by heat sterilization, and to meet this difficulty various methods have been adopted. Of these, complete peptonization is unphysiological, as normal functions are usurped and perverted, and impracticable because of the impossibility of always securing a palatable product.

The use of trypsin for partial peptonization works well in many cases where the milk is fairly fresh when prepared, but it, also, is open to objection.

As to the peptogenic powder of Fairchild, this method marks the first genuine advance in the modification of cow's milk to the standard required for infant feeding, although from the frequent occurrence of the constipation and ammoniacal urine before

referred to, in spite of the fact that the albuminoids are reduced one-half by the addition of water, it must be considered as wanting in some particular.

In the use of this method, the boiling of the mixture is supposed to give practical sterilization, but in practice I have not found it so; the twenty-four hours' supply being frequently curdled and intensely acid in sixteen to eighteen hours where the milk is more than eighteen hours old when the food is prepared.

This experience in the use of heat-sterilization and partial peptonization led me to look into the subject from a standpoint which seems to me to be more nearly correct biologically than any I have been able to find in the literature of the subject.

The method employed and the results so far obtained are not urged as supplying a complete solution of the entire problem of infant feeding, but I believe the basic idea to be the correct one, as it gives, or seems to give, an initial hydration to the albuminoids instead of a subsequent or secondary one, as is the case with peptonizing powder containing trypsin.

In preparing material for dialysis about three years ago, I was much impressed by the readiness with which the resistant proteids of organized tissues break down under the combined influence of heat and hydrochloric acid, and it occurred to me to try some experiments of this nature on milk. I remembered also, having read somewhere, a recommendation to boil milk with diluted hydrochloric acid, but by whom I have not been able to recall. Our president has recently informed me that the originator of the method is Professor Jacobi.

The method of procedure is simple; a solution of hydrochloric acid in milk is secured by adding twenty to thirty drops of a ten per cent. acid to one pint of water and then mixing thoroughly with one quart of milk. This mixture is then boiled, with constant stirring, for twenty minutes, or it is kept at a boiling temperature for that length of time in an Arnold sterilizer. If the milk shows decided acidity to litmus, as city milk usually does, the milk-acids should be neutralized with limewater before further preparation. In milk three hours old I have succeeded in adding the acid to the amount of two-tenths per cent without curdling it.

In boiling in an open vessel the evaporation is usually equal to the amount of water originally added, and may be made up, wholly or partially, if desired or found necessary, by a fresh addition of boiled water; or further dilution may be made to

meet the demands or limitations of any special case. No addition of sugar is necessary except where heavily sweetened foods, as condensed milk, have previously been used, and under these circumstances the amount added can be rapidly withdrawn.

So far I have found no objections to this method of modifying cows' milk, provided milk of reasonable freshness is used, for if it is curdled in preparation, investigation will show that a point in decomposition has been reached which renders it unfit for food under any plan of treatment.

To cite cases of malnutrition, with or without serious digestive disturbances on other foods, recovering and thriving on this mixture, might mean nothing, for we have all seen the same conditions in infants at the breast where the character and quality of the natural supply seemed to be all that could be desired, improve on almost any change.

The same may be said of a change from one method of artificial feeding to another; but in cases where the same milk treated with the hydrochloric acid is easily digested and gives full nutrition after failure with plain sterilization and with partial peptonization, as has frequently been my experience, it must be admitted that some important change has been brought about in the character of the milk proteids.

To determine the nature of this change, I secured a supply of milk, three hours after milking, from dry-fed cows. The reaction was amphoteric, specific gravity 1030; in fact the same milk upon which several babies are being successfully fed. The entire quantity was put into the ice-box for fifteen hours, to bring it to the age of the best and freshest milk as supplied to consumers—eighteen hours—and treated as follows:

400 c.c. were put in a sterilized flask, A., and precipitated at once by acetic acid.

To 400 c.c. in flask B were added 100 c.c. of water containing 0.05 c.c. of hydrochloric acid. This mixture was boiled for twenty minutes, and when cold was also precipitated by acetic acid.

The 400 c.c. in flask C was simply sterilized and was likewise precipitated.

These three precipitates were thoroughly broken up, washed and dried. They were then ground up in alcohol and digested in the alcohol for twenty-four hours and for another twenty-four hours in alcohol and ether, dried and extracted with ether in a Soxhlet apparatus. Samples from each of these precipitates

when rubbed up with lime-water gave no reduction of copper and no osazone crystals, showing that the extraction of soluble carbohydrates had been complete.

Ten grams of each precipitate in a water-free state were boiled in flasks fitted with upright condensers in 50 c.c. of ten per cent. solution of sulphuric acid to complete solution; almost neutralized with baryta water—neutralization being completed with barium carbonate, filtered and each evaporated to 100 c.c. volume.

On account of the time required for the sulphuric acid reduction, it was impossible to get any idea of the relative ease with which the different caseins were broken down. They were simply boiled until a clear solution was obtained; and herein may lie a possible source of error in the estimate based upon the subsequent operations.

Upon the assumption that the weak acid, in combination with heat, acting upon fresh casein, brings about a partial hydration, making subsequent hydrolysis less difficult and more complete, it might be supposed that these three determinations would give results differing in the amounts of carbohydrate present, and this proved to be the case. Pavy's method was used throughout, including his ammoniated cupric test solution, standardized to the reduction of the copper in each 10 c.c. by 0.005 of sugar.

On account of the masking effect of the peptone reaction three titrations were made in each case and the average results taken, which can only be considered as approximate.

These average results showed that the cleavage carbohydrate in casein A was gm. 1.111; B, 2.122; C, 1.562.

In each case phenyl-hydrazine and sodium acetate gave osazone.

Whether or not these results substantiate the claim that hydrochloric acid and heat give an initial hydration which renders the milk albuminoids more susceptible to further hydrolytic change is a question to be determined by biological chemists.

The practical aspect of the problem for physicians must be decided by further clinical experience.

The fact remains, however, that cow's milk is the only available source from which may be obtained all the essentials of complete nutrition, and in proportions not so very far out of the way.

Upon this basis the problem of artificial feeding of infants

would seem limited to the best method of rendering refractory material less resistant—the same problem, indeed, which attends the adaptation of the food supply of the world to human needs.

DISCUSSION.

Dr. E. E. Smith: It seems to me that the time has come for the chemical discussion to close and for the clinical aspect of the question to receive attention. The paper has dealt very exhaustively with the chemical phases of infant foods, and has in every respect expressed the views that I have been inclined to take in regard to food preparation.

Of course the first essential in the preparation of a food for an infant is that it should be of a proper quantitative composition; that it should contain the food principles that the system demands for its construction, and that having been reached—and the paper has very justly said, I think, that can only be approximated by the use of a modified milk preparation, as modified preparations of cows' milk—that having been approximated, attention must then be called to the qualitative nature of the food stuffs present.

As the writer said, the most essential of the food stuffs is proteid. The proteid present in human milk, as we now know, averages about $1\frac{1}{2}$ per cent., and yet that proteid is of the utmost importance and in the modifications that the milk may undergo in different preparations in order to bring it into a form that is available for the best results in the case of infant feeding, we believe, as the paper said, the purpose is to change the albuminous substances into the earlier digestive products by a process of hydration, this so changing the nature of the proteid as to prevent certain unphysiological conditions that the cow's milk brings about in the stomach.

We now know that with cow's milk a rennet precipitate is very largely curdy; that a strongly acid precipitate, while more or less curdy, is more broken up in its appearance, and so with the child to whom the milk is fed, if the gastric juice of the child is normal and acid, especially if it contains much free hydrochloric acid, it is very probable that a preparation of cow's milk not greatly modified qualitatively will be adapted to the use of that particular organism. But where the gastric juice is less strongly acid, then the modifications in the nature of the proteid, that the paper has spoken of, become not only important, but become essential.

To my mind in thinking of this matter I have thought less of the quantitative adaptations of the food to the requirement of the organism than of some qualitative changes, and less of the proteids than to purely hypothetical questions that perhaps are of no interest here to-night at all.

In the first place, when we modify the milk and when we take artificial preparations, there are certain elements of which we have no practical knowledge as yet. There are certain chemical substances, that perhaps are present only in minute quantities, which play an essential part in the upbuilding of the organism, not merely in the digestibility of the food, but which perhaps bear an important relation to the future welfare of the organism. Take for instance the amount of iron the system receives. We know that in a liter of cow's milk there are probably only two or three milligrams of iron. Human milk contains in the same amount probably not much more, probably three or four milligrams of iron, and the question comes up in an artificial food, if we withdraw the iron altogether from the system, would we be robbing the system of something which is of importance and which will have a bearing upon the future condition of the organism?

Then there was another suggestion that I had in mind that came to me from the very striking result that Baumann has obtained in his study of thyroid extract. He finds a substance in the thyroid extract which he believes to be the active principle of thyroid. He finds a substance there which he believes to combine nearly, if not quite, all the physiological actions that we know the extract of thyroid possesses, and Baumann, in the study of the chemistry of this organ, finds that this particular compound contains ten per cent. iodine. He calls it thyro-iodine. A striking thing and something we least expect. And the question comes up, when we undertake artificial feeding of infants, how about these chemical elements occurring only in minute traces, to which our attention has not been called? And how about unknown combinations of carbon, hydrogen, and oxygen, that do not stand out so prominently as iron and iodine do, but which are essential or play some particular part in the nutrition of the individual?

The paper that was read I will state frankly contained every idea that I came in with the intention of offering, and what I say comes to me in a scattered way, as perhaps suggestive of some future thought; but as the paper rightly states, the great object

at the present time in the preparation of artificial food is to see that the food approaches to some degree of exactness the quantitative composition of what we accept as standard—that is, the composition of the natural food of the infant; and, second, that it be of such a quality as to be available to meet the requirements as regards digestibility and be not the cause of any unphysiological process which may occur in the intestinal tract.

In that connection I may say I have followed the feeding of quite a large number of infants, taking the infants from the time they were a few weeks old and followed their history for a year or two—and all of them have been infants carefully fed—and in some of those I have noticed the occurrence of catarrhal conditions of the alimentary tract, and that when the utmost care is taken under the conditions of artificial feeding. And I think at present, while we are looking at the digestibility of the food, that we must also bear in mind that if the infant does not suffer at the time of feeding—that if the symptoms of malnutrition are not marked—yet the more careful, the more critical study of the case may show that what we think is physiological is, in some respects at least, unphysiological.

Dr. J. Fuhs: Permit me to make some remarks on the results of testing specimens of milk as they came to my house.

The milk was tested in the afternoon after being on ice all morning.

It showed an acidity of 118 on an average, or about eight per mille, due to citric and lactic acid. I mention this fact, because there might be a way of preventing the formation of these injurious products of fermentation.

I noticed that on adding a decivolumetric solution of HCl, drop by drop, the casein would be precipitated in extremely fine flakes.

The flakes appeared to be more coarse if the entire quantity were added at once.

Dr. Bartley: Does the doctor find any difficulty in the coagulation of the milk? I ask this question, because I attempted to do this very thing and I could find no milk that would stand a two per mille solution of hydrochloric acid without coagulating. I took the city milk and it probably had reached somewhere near what has been termed the period of incubation—that is, when the acidity becomes rapidly increasing. I have found the method impracticable. I fear that the method, as described, gives nothing but sterilized milk.

Dr. L. Grant Baldwin : Having had the privilege of knowing something of Dr. Bunker's work in this line before to-night, I can give some practical experience as a result of it. Certainly with all artificial foods that I have ever tried with babies this has proved far superior to any of them. To mention two specific cases : If I ever saved human life by non-surgical means I am sure I have saved two babies' lives this summer with this milk. They were both nearly moribund when they came under my care, and had been given up by several physicians as being beyond help. They received no medication whatever, except as I term it now, "Bunker's Modified Milk;" absolutely nothing else. The gain immediately was remarkable.

I have found it valuable not only in feeding infants, but also invalids with delicate stomachs. In one case recently, after a serious abdominal section, a patient who could not retain even a teaspoonful of boiled water, but a teaspoonful of this modified milk was retained, and I was able to gradually increase the amount with a like result. So confident have I become, and so well pleased with this method of preparing milk, that in all my abdominal sections I have given up the use of peptonized milk and now use Bunker's modified milk instead.

Dr. C. E. Clark: Mr. President, and members, we came here to-night to acquire information in regard to feeding infants. We have listened to an exhaustive chemical lecture—something we will think over, digest, and remember. We deeply appreciate the careful and complete methods of the doctor in his research and experiments, but still we will go away to-night prepared to continue the same treatment as before. Now, I think, gathering here night after night, we should relate our experience in regard to prescribing foods. The only thing mentioned in regard to feeding babies was Bunker's modification, but no one seems to express much hope in that direction. I will state that if the correct proportions are expressed in your prescription for the Walker-Gordon modification, entirely satisfactory results will be attained; but as this costs from seventy-five to ninety cents a day it is beyond the reach of the great majority, the poor. During the past fourteen years, after trying many methods of feeding, I have arrived at the conclusion that the Eagle brand Borden condensed milk, modified, diluted, and with slight alkalinity, is the most efficient. We are here to find out from each other what to do with these babies who are dying all around us of starvation, and it seems strange

to me that more information on that line has not been imparted to-night.

Dr. H. A. Bunker: In regard to Dr. Bartley's question, I can only say I have had no trouble at all except with stale milk, in the matter of curdling.

Dr. Fuhs spoke of adding the acid drop by drop. I think the matter was covered in the question of the dilution of the milk before the mixture. The acid was dissolved or mixed with the proper amount of water to bring up the percentage and then the two mixed together by constant stirring. I never had any trouble in milk under twenty hours old, and the experiments were with milk intentionally eighteen hours old.

I am very sorry, indeed, if the idea that this was a purely chemical lecture with no biological application, should be carried away. I had flattered myself that I had demonstrated something practical. I certainly never suggested the name given by my friend, Dr. Baldwin, to the preparation, and I certainly never wished to claim what credit may belong to Professor Jacobi.

The idea that I embodied in the paper as to the practical method of modifying cow's milk for the infant's stomach was, of course, much older. It is the method I have used for three years, and now use no other method of feeding. It seemed to me practical, and I went to work to find out why it was practical, and I think my theories are based largely on chemical and scientific facts. I may be wrong, but the results have been practical even if my paper is not.

Dr. J. F. Golding: I would add a word as a reminder as to the originator of this method. This method was proposed in 1876 by Dr. Ruddisch, who at the time was an assistant to Dr. Jacobi, and one of the reasons why it was abandoned was because no milk in the market could be found that would not behave in the way Dr. Bartley indicates. Dr. Jacobi's paper, in which this method was described, was read before the New York County Medical Society in 1876.

INHALATIONS IN PHTHISIS WITH A NEW FORM OF INHALER.

BY A. J. DOWER, M.D.

Read before the Medical Society of the County of Kings, June 16, 1896.

I know full well the medications and inhalers which will be presented to you this evening will be looked upon with doubt, and, I think, very justly, as we had many panaceas and specifics from physicians in Europe and America, which all proved almost absolutely useless, with the exception of Dr. Edson's aseptoline, that has a controlling influence, and I use it as much as I possibly can, but its method of introduction is a marked objection, as your patient gets tired of the nodulations and soreness, and at times leaves the physician abruptly and, as a rule, winds up with those gentlemen that advertise and promise everything imaginable. It is well known to us all that many diseases have their causative germ, and that all germs are generated from conditions of habit, soil, and climate, together with impregnated atmospheres and associations of individuals; every disease, therefore, has its family or community of *germs*. With that understanding, the question arises, "Can we medicate the respiratory tract sufficiently with the most improved and non-irritating germicides of the present day?"

The main factor in view is to destroy the lives of those small organisms and also the poison produced by them, and that accomplished, means the cure of phthisis pulmonalis in the first stage. I am satisfied in my mind and convinced that it can be done, in a large proportion of cases, when treated in the proper stage by medicated vapor on the same principle that a surgeon would treat a pyogenic wound.

I have been working in this line of procedure for over a year and commenced using volatile oils, commonly known as essential oils, combined with tar products and menthol, using these separate and combined, but I soon discarded them on account of their irritability, and I am convinced that vapors from those drugs cannot extend to the bronchi on account of the irritating effect on the larynx, or any other drugs that produce spasmodic coughing, admitting those drugs have a very beneficial effect in the nasal cavities and pharynx as well as its surroundings. I then con-

ceived the idea that all medicines for disinfecting the bronchi must be of a quality which has a local anesthetic and antispasmodic effect, and knowing the controlling influence of carbonic dioxide on the recurrent laryngeal and superior laryngeal nerves, I then commenced using the artificial medicated heated air, ten per cent. of carbonic dioxide, thirty per cent. oxygen, and sixty per cent. nitrogen.

I allowed patients who had phthisical throats to inhale about one gallon of the air without medication, and then medicated air to my satisfaction: the addition of carbonic dioxide made the larynx tolerant to the medication, and the patients could take five to ten gallons of medicated air with the greatest ease and comfort, and the subsequent consequences derived from such vapor gradually and permanently reduced temperature.

In the first and second stages it relieves coughing and expectoration ; there is no necessity for anodynes.

I have by this means cured many cases who inherited the disease. With those who have a marked phthisical history I make it a point to disinfect the alimentary canal, and consider it just as necessary as the respiratory tract, giving them beechwood creosote, if possible, and find the best vehicle for same is syrup. (*Yerba Santa Aromaticus Co.*, Parke Davis & Co.), in water or in American port wine, which contains but little alcohol. If the patient's stomach rejects the creosote or rebels against the taste, I then place them on ten-grain doses of bismuth subgallate and two to four-drop doses of carbolic acid, combined with glycerine and water.

The dose is a teaspoonful every three hours, and when the temperature is normal I generally give the patient forty to sixty grains daily of betanaphtol of bismuth, besides tonics which may be suitable for the individual.

The acquired cases, which I have seen, were generally alcoholic drinkers and persons of other vicious habits; it is much easier to cure these cases, providing you are successful in getting the patients to completely reform; if you frighten patients with phthisis you are generally successful, and they become very obedient; these persons require stimulating tonics and as much strychnia as you can give with safety.

Impress all phthisical patients with the necessity of pure air, good hygienic surroundings and the best food, and in inherited cases I would advise you to omit the words tubercular or consumption, as I have found by experience that to use these terms

is to make these patients so spiritual all at once that their spirituality overcomes their physical body and they go to pieces. You have to impress them with confidence, and instead of using the words tubercular or consumption call it circumscribed catarrhal inflammation; by that means you can keep your patients, otherwise they will travel over the two cities until they procure somebody that will contradict your diagnosis. This gentleman will call it bronchitis, and will tell the patient that he will cure him.

I feel we make a mistake in making known to our patients that they are invalids. By so doing they will stay in the house. If it is wintertime they are generally around a large fire with every window closed, and the chances are they get very near the stove, about four feet away from it, and the door or top of the stove opened, permitting carbonic dioxide to permeate the already foul air; the ever-faithful mother, not knowing any better, will place cotton in the interstices of the window frames, or a quilt, so as to be sure her child will not get a breath of pure air. The regular thing is to place the poor patient in a dark room. People, as a rule, are sociable, and when they know of their friends being sick, they visit them in large numbers, and generally the male visitors will smoke. Physicians often try to remedy this. Their advice is not heeded at all times; some are influenced by their neighbors.

I generally insist in my own way on proper hygienic surroundings.

But, gentlemen, when you are trying a new method and trying to get the results of the same under extraordinary disadvantages, you must compromise with the faithful mother in this way; to procure living, and get all you can in the patient's room; they will add materially to the comfort of the patient and help to keep the noxious atmosphere of the room pure by the absorption of carbonic dioxide and emitting oxygen through the leaflets, imitating the vegetable kingdom, which is the prime factor in keeping the atmospheric air pure, a constant interchange continually going on between the mother earth and atmospheric air.

I allow my patients to attend to their daily work, no matter what their business is, in the first stage, but always recommend outdoor employment.

This line of treatment is intended for those who cannot afford change of climate; no inhaler or medication is or ever will be superior to a proper location and the power of the rays of the subtle sun. It is but a short time ago that it was demonstrated by

scientists to their complete satisfaction, that the destruction of millions of germs by the rays of the sun took place through a medium of thick glass. Medicated vapor has been used by the ancient and modern Romans with beneficial effects. The Roman physicians attributed the importation of phthisis to the Egyptian traders, and it was known as the Egyptian plague, and a great mortality followed.

The Emperor sent to Cairo and procured the services of eminent physicians of those days, and, being more acquainted as Egyptians with the dreadful disease, they prescribed isolation and removal to high, airy localities, and ordered that the unaffected portions of the Romans should bathe in the River Tiber, young and old, both sexes, live generously, and maintain regular habits.

The panic soon ceased, and the wonderful results were ascribed to the daily bathing in the Tiber River. And here I may say that it had never ceased to be remembered, as it became the custom ever after to indulge in daily bathing, and led in after years to the great Roman baths.

It was under Caesar Octavius, surnamed Augustus, that Roman baths began to assume that importance and grandeur which have rendered the Romans famous in ancient and modern times. Eight hundred public baths were built by the emperors with amazing magnificence. The top floors of all public baths were devoted to patients with pulmonary complaints. Where vaporized atmospheres were inhaled, the air was drawn from the elements by hydraulic suction and all previous atmospheres expelled from the apartments by hydraulic pressure, an allowance of twenty gallons to each individual, and that indicated by an air-ometer, with which each department was supplied.

The Romans were very much afraid of the disease, showing clearly that they considered it infectious.

The inhaler which I use in my office is fourteen inches high and twenty inches in circumference, containing two chambers, the outer chamber being lined with asbestos, so as to prevent radiation and loss of heat; the inner one is independent of the first, and contains the receptacle for No. 2 medicine. There is also a receptacle outside on tube running to mouth for No. 1 medicine. Three copper tubes attached, one goose-neck shape, pointing toward the tube which carries the air into the inner chamber. The advantage of this tube and its shape is to retard the ingress of air into the medicine receptacle, otherwise the patient would get too much medication in a short space of time. The other

tube is to connect with the mouthpiece. The third is the medicine-feeder. A tube leading from the top to the air-chamber is for the thermometer. It has a bottom plate, a Bunsen burner, the flame of which strikes the bottom of the inner chamber. This burner can be detached, and an alcohol lamp takes its place if necessary. The inhaler which is used by the patient at his home consists of two pieces, the stand and boiler, within the boiler. There is a glass receptacle which is attached to the cover with two tubes passing through same, and in the neck of this receptacle it is fenestrated so as to allow hot air to penetrate the receptacle and carry the vaporized medicine through the tube leading to the patient for inhalation. This tube is a rubber tube, about eighteen inches long, interrupted in the middle by a glass receptacle for saliva, and easily emptied, and by this means the vapor can be taken readily and with comfort by the patient. I have the patients use it night and morning. This inhaler must be placed at least twelve to eighteen inches below the mouth when inhaling so as to avoid an overdose of medicine. This second inhaler is a suggestion of Dr. Bartley's. The principle is the same with the addition of a glass tube, goose-neck shape, which is valuable in regulating the temperature and amount of medicine, and well adapted for those who have tender throats. About one ounce of water is used in the boiler of this inhaler at each sitting.

The benefit of these inhalers is that the vapor is continuous and not interrupted and not irritating, and by that means the patients can inflate their lungs with comfort.

The following is the medication I employ in all the inhalers :

No. 1.

Iodophenol,	. . . . .	℥ ii
Ethyl Iodide,	. . . . .	℥ i
Spiritus Vini Rectificatus,	. . . . .	℥ ii
Spiritus Ether. Co. (Squibb's),	. . . . .	℥ i
Aqua,	. . . . .	℥ i

If the patient's pharynx and larynx are much affected and coughing is considerably, I use No. 2 combined with No. 1, which is composed of equal parts of ichthyol and spirits ether co. I use ichthyol internally in large doses, five-grain capsules, combined with magnesium carbonate. If the patients cannot swallow capsules, I give them a concentrated solution, equal parts of ichthyol and water, and get them to take five grains every three or four hours, until the harrassing and dry cough disappears. It

is a powerful, stimulating expectorant, and reduces temperature, and with some phthisical patients it acts better than creosote. I alternate occasionally, and find the change serviceable.

All the medicines used are the best germicides known to us up to the present date, and, so combined, they contain germicidal, alterative, antispasmodic, and anesthetic effects.

I generally use of No. 1 ten to sixty drops, and of No. 2 twenty to sixty drops in each sitting. I commence with the small dose gradually increase.

Temperature required for No. 1 is about 200, but I get my patients to begin at 150°. The ether and iodide ethyl volatilizes first, preparing the mucous membrane for the stronger. No. 2 requires a temperature of 312 or more. When I commenced using these preparations I thought I made an iodide of phenol by combining tr. iodine and carbolic acid in equal parts. I knew I had free iodine, and I then made iodide of phenol, and also had free iodine. I had three chemists to make it, without success, not understanding synthetical chemistry. I saw my friend, Professor Bartley, some months ago, and he made the iodophenol for me, and to him I owe the formula No. 1. He and I have worked continuously together and discarded all medications of an irritable quality.

Mr. Kaysan, surgical instrument manufacturer, who has made my inhalers, rendered valuable suggestions.

DISCUSSION.

Dr. E. H. Bartley : I would like to offer an apology for the inhaler that I presented some time ago. After I had presented and used it—although I have some patients using it still—I found great difficulty in controlling the temperature. The instrument would get too hot, although the medicines, even a comparatively non-volatile medicine, could be volatilized in that way with steam. In order to volatilize them a fairly good current of steam was necessary, and then the temperature became so high that it was difficult for the patient to endure the heat. I had great difficulty in controlling that element, and in this inhaler, presented by Dr. Dower, we have the means of controlling to a considerable extent that very difficulty. He was good enough to lend me one of these instruments, and in using it I had the same difficulty. I then suggested to him the simple arrangement of controlling the temperature and the dosage by means of the goose-neck tube, which can be raised and lowered in the cork and still project a

strong current of air on the medicine when the patient inhales. In that way it is possible to divide even comparatively non-volatile substances like ichthyol. In the course of twenty minutes a very considerable amount of ichthyol can be volatilized, will disappear from the cup and will condense to a certain extent in the drip-cup—the little cup, to which the Doctor called attention, and in that cup also condenses a very considerable portion of the steam. The vapor that is inhaled is in the finest possible state of subdivision ; it is not in the form of small drops. It is different from a spray in this particular. Probably it passes down at least into the second, perhaps the first or second bronchi, perhaps not much below that. But I am hardly prepared to accept the statement of Dr. Evans that there is no absorption from the mucous membrane of the bronchial tube except in the case of gaseous substances. I am certain that iodine, for example, is absorbed ; that phenol is absorbed to a slight extent ; that many other liquid substances are absorbed to a certain extent. I am not quite prepared, either, to accept his statement that we should not try to get the constitutional effects in this way. If we can get a substance which will have a local anesthetic effect, and also have an absorptive constitutional effect, so much the better. But there is no doubt that iodine can be inhaled and absorbed by the mucous membrane somewhere between the lips and the end of where it reaches. It is absorbed, so that it can be detected in the urine. How much absorption there is I am not able to say ; but there is certainly some. Iodine is rather too irritating for ordinary use. It is very pretty in theory to cause our patients to cough and clear off the mucous membrane of the bronchial tube, but the patient when he comes back will say : “I don’t want to take that thing any more ; it made me cough all night.” It is necessary, in my experience, to get some remedy that will act as an anodyne or local anesthetic, so that we can apply stronger remedies, with something to guard them, so to speak. It was with that idea that I suggested this mixture which the Doctor has spoken of. With this mixture I am certain I have obtained effects that are, if not scientific, at least pleasing and beneficial to the patient.

Some of the members may be interested to see this liquid, which is not a very common thing in the market. I have here a small vial containing some of the pure, or nearly pure, ortho-iodophenol. This iodophenol is made by treating phenol with a mixture of iodine and iodic acid or sodium iodate, so as to replace

one atom of hydrogen in the phenol molecule with one atom of iodine. My idea of making it was to get the anodyne effect of the carbolic acid and with that the alterative effect, if there might be such an effect, of the iodine. It contains more than half its weight of iodine. The atomic weight of iodine being so high, it makes it a very heavy, oily, red liquid, not very soluble in water. Water will take up enough to color it somewhat. I have never determined the exact solubility of it, but I think it is one or two per cent. It is readily soluble in alcohol, ether, or chloroform, but is not soluble in benzine. It is not soluble, I therefore assume, in albolene and liquids of that character. That is one great objection to its use. It is insoluble. The reason for adding to this mixture the iodide of ether was to get its local anodyne effect. The objection that Dr. Evans calls attention to in the way of insoluble substances is, theoretically, certainly proper; but practically this mixture which contains the insoluble iodide of ethyl and the iodophenol does not seem to give any after-distress; in fact, the patients invariably say: "I feel better after it." I like the mixture, and I have been governed perhaps more by the sensations and effects in patients than I have been by scientific reasoning. It was rather from adding one thing after another, and trying it myself on my patients, that I got something pleasant. I know it is a good anesthetic, and leaves a good after-effect.

[The reporter submits the following as all that he could hear of Dr. Van Cott's remarks, owing to the excessive noises in the street caused by the passing of heavy wagons]:

Dr. Van Cott: In reference to Dr. Evans' statement that constitutional effects are not to be looked for in medication, I would draw attention to the fact that when Koch made his first experiment he showed that guinea-pigs were rendered immune by inoculation of trichloride of iodine.

There are those who state now positively, among them Dr. deSchweinitz, of Washington, that tuberculin will do the same thing; that the injections of tuberculin will in a certain percentage of cases control tuberculosis. It seems to me the term "systemic action" would be better than "constitutional," because that simply means the action of a local remedy after its introduction into the system.

Dr. deSchweinitz told me, a while ago, that he had recently used tuberculin in animals, and had succeeded, so far as he could see, in controlling the disease. The Doctor believed that if constitu-

tional remedies are used in time they usually have that effect in a certain class of cases.

Dr. Evans: In reference to Dr. Bartley's patient expressing the sensation of warmth or stimulation at the ensiform cartilage, I would remind the Doctor that we have no lung or bronchial tube at that point; so the sensation must have been reflex, that is the lower portion of the mediastinum.

The constitutional treatment of pulmonary tuberculosis in the early stage is certainly not rational if we believe that pulmonary tuberculosis is a local disease, and it certainly is. When the tubercles are disseminated throughout the body, then we have, of course, a systemic tuberculosis, and Dr. Trudeau very nicely illustrated that in cases of rabbits which he presented to the Academy of Medicine two or three years ago. The constitutional or systemic treatment of a condition which is purely local is not rational. Pulmonary tuberculosis at first is purely a local affection. It is through local infection, and it may be very much from the lymphatics or glands of the neck to the bronchial glands and then to the lungs that we get systemic infection.

The climatic treatment of consumption has been mentioned as the treatment *par excellence*. Of course, those who fail to get well simply fail to get well because of the existence of necrosis, the result of insufficient nutrition. Those who recover in the early stage get well because of the high grade of nutrition that has been developed, and that may be secured by improving the nourishment or nutrition of the whole body by climatic influences. But we must remember that many of these cases of phthisis develop the disease when in a fair condition of nutrition; they develop a local condition; they develop it by infection, and it is rare to find any one who now believes in the existence of heredity. Inherited consumption is, I think, a thing of the past—it comes from infection. A child, who has a mother about the house, when its mother is gradually wasting away with tuberculosis, becomes infected—generally its cervical lymphatics—through the sputum that has been dried and converted into dust and is floating around the rooms of the house and gets into the system of the child at that time. The majority of children who are thus infected do not develop active tubercular trouble until after the eighteenth or twentieth year, and the period of increased immunity begins from twenty-eight to thirty.

The recovery from pulmonary tuberculosis by means of local treatment is never, I think, through the destruction of the bacil-

lus in the air passages or lungs of the patient. Any means, any chemical, acid or base, or heat or cold, or any influence competent to destroy the bacillus in the tissues of the human body would certainly first destroy the tissues. We have in these air-passages a sputum, an albuminoid fluid, a pabulum for the development of colonies upon colonies of bacilli, and the expectoration of these bacilli is what helps the man; he is getting rid of them and the pabulum in which they develop. In the great mass of these cases, when they go from the first to the second stage, we have a condition of lung that is so dense that the lung is no longer pervious to air. How, then, are you going to get a spray in there? We don't get it there; we can't get it there. And those people who get well, get well by a process which we call fibrosis: they develop first interstitial pneumonia, and it is only by the development of interstitial pneumonia, the cicatricial tissue taking the place of the destroyed lung-substance, that they get well. Those who get well in the first stage, get well by an entirely different process.

Dr. Z. T. Emery: I might speak on a point which was brought forward by this Society some two or three years ago and also by the Pathological Society, in which they called on the Health authorities to issue a circular by means of the public press and by circulars and otherwise to educate the public into the idea that tuberculosis was disseminated, continued, and spread by means of the sputum being thrown about and not cared for.

There is one point alone in the Doctor's paper which I would like to take exception to, and that is with regard to informing patients that they have tuberculosis, because by that very means they oftentimes are prevented from taking care of themselves and they reinfect themselves. Oftentimes cases we know recover if they are free from the influences of infection and if the sputum is taken care of, and I take it for granted that the majority of our physicians consult some microscopist to ascertain if the bacillus is present, and wherever that is present it seems to me the patient should be instructed to take care of the sputum.

Dr. Dower: In regard to the remarks of my friend, Dr. Evans, if he considers that vapor is not scientific, then two-thirds of our present therapeutics are not scientific. You take for example the ointments, oleates, liniments which are used by the general practitioner and there is not a day that he does not meet patients whose stomachs will rebel against all medication, and the best men in the city to-day use medicines by means of inunctions and

suppositories. We are obliged to use quinine in solution, say in glycerine. For rectal medications I know a gentleman, one of the best practitioners of this city who uses the bisulphate of quinine dissolved in glycerine. There is no science there; you don't know how much the patient gets.

Again, there is not a dose of medicine we have in our *materia medica*, and there is no man, physiologist, or chemist, or doctor, to tell how that medicine is assimilated or who can tell the *modus operandi* of any individual medicine, no matter what the dose that is put into the stomach.

Regarding the absorption of vapor or anything else, Professor Bloch of Freiburg, and Macdonald of London, demonstrated thoroughly that in the nasal mucous membrane the interchange of gases takes place just as in the bronchial tubes. If it takes place there, we know that the medicine we use in the mucous membrane is absorbed, and Dr. Evans knows it well. All he or anybody else need to do is to apply a small quantity of atropia—fluid extract of belladonna—apply it to the mucous membrane of the nose and it is absorbed, and you get just the same effect as you get by the mouth. If you apply iodine and glycerine to the nasal mucous membrane, the patient will act just the same as when it is applied in the patient's rectum or patient's pelvic cavity. The iodides and different preparations, iodide of sodium and potassium, glycerine, and iodine that are used in that region, are absorbed, and the patient will tell you pretty soon that he has the metallic taste of the iodine.

As regards medications, we have ointments, oleates, liniments, and washes. We have ointments of the strongest material, for instance, aconitia, which is the most dangerous drug we handle; and we also have veratria, and when patients cannot take it and their stomachs reject it you have to use judgment. You give ten grains of quinine, for example; you don't know whether it acts as bisulphate, or bromide, or sulphate, or hydrochlorate of quinine; it is not to be told; you don't know how much is assimilated; and when you give quinine and find it in the urine you have to be guided, as all general practitioners are, by cause and effect, and in the greater part of our therapeutics there is no science, it is pure and simple medical wisdom, and the man who has most wisdom is generally most successful.

REPORT OF ONE HUNDRED CONSECUTIVE GYNECOLOGICAL OPERATIONS, FROM MARCH 1, 1895, TO MARCH 1, 1896.

BY JOHN O. POLAK, M.D.,

Attending Surgeon, Department for Women, Brooklyn Throat and Eastern District Hospitals.

This particular series of consecutive operations has been selected by the writer in the hope that the following observations and reports of cases may be of interest, as each patient has been examined at regular intervals since leaving the hospital for periods varying from five to eighteen months. But one death has occurred during the twelve months included in this record. This woman died from acute syncope while in the act of defecation, fifteen days after a trachelorrhaphy and perineorrhaphy. (The history of this case, with the finding of the necropsy, will be given under Plastics.)

The work has been classified under heads of Hysterectomies, Celiotomies, Plastics, and minor cases.

HYSTERECTOMIES.

CASE I.—B. McD., æt. forty-two. M. One child twenty-two years ago. Epithelioma of the cervix, ulcerative form, involving the mucous membrane of the portio and extending one inch into the vaginal fornix posteriorly. Both broad ligaments were apparently free from infection. March 7, 1895. Ether. Necrotic tissue thoroughly curetted and cauterized. The cervical flaps were brought together with sutures to close off the infected area. Vaginal hysterectomy (ligatures). Rapid and uneventful recovery. Discharged March 27, 1895.

February 10, 1896. Recurrence in the vaginal vault, with marked induration in the left broad ligament (the old scar has been excised and the surrounding tissues freely destroyed with the actual cautery. Bromide of arsenic has been continued internally).

July 1, 1895. Patient has had repeated hemorrhages and is very anemic.

CASE II.—B. W., æt. forty-two. M. Four children. Complete procidentia of a subinvoluted uterus with cystocele and rectocele. The ovaries were normal.

April 6, 1895. Ether. Vaginal hysterectomy (ligatures). The vaginal walls were stitched to the tops of the broad ligaments. Discharged April 23d. In perfect health at date of writing. Both cystocele and rectocele have been markedly reduced by the retraction of the broad ligaments.

CASE III.—M. Crd., æt. thirty-four. M. Five children. Nodular carcinoma of the cervix. Both broad ligaments were free from invasion. May 9, 1895. Ether. Vaginal hysterectomy (clamps). Prompt and perfect convalescence. No recurrence at date of writing.

CASE IV.—Mary K., æt. forty-five. M. Six children. Nodular carcinoma of the cervix, with no neighboring involvement. July 16, 1895. Ether. Vaginal hysterectomy (clamps). Discharged August 5, 1895. No recurrence one year after ablation.

CASE V.—W. Ep., æt. forty-three. M. No children. Tubercular endometritis and salpingitis, with cystic degeneration of both ovaries. October 13, 1895. Ether. Vaginal extirpation of the uterus and adnexa, using clamps for hemostasis. Discharged November 18, 1895. July 15, 1896. The patient is free from all pelvic pain and is in good health, except for a chronic gastro-intestinal catarrh, which antedates her operation.

CASE VI.—M. Pst., æt. twenty-four. M. No children. Dysmenorrhea and intermenstrual pain for three years. Fluctuating tumor of the size of a large orange filling the right cul-de-sac, displacing the uterus to the left. The left ovary was prolapsed and cystic. May 26, 1895. Supra-vaginal hysterectomy (after Baer). Abdominal incision closed with buried silver wire, including peritoneum, muscle, and fascia. The skin was closed with a subcuticular stitch. Small hematoma in right broad ligament on tenth day; emptied through vagina. Recovery was prompt. No hernia August, 1896.

CASE VII.—E. Shaps, æt. thirty-four. M. Three children. Ulcerative epithelioma of the cervix. Posterior lip entirely destroyed. Lymphatic extension into the left broad ligament. No fixation of the uterus. December 3, 1895. Vaginal hysterectomy (clamps). Extensive removal of the left ligament. No recurrence after eight months.

CASE VIII.—W. E. Grs., æt. forty-eight. M. One child. Multinodular intramural fibroid of the size of a fetal head, with a pedunculated subperitoneal nodule of the size of a lemon at the fundus. Cystic degeneration of the left ovary. January 31, 1896.

Ether. Median section, supra-vaginal hysterectomy (after Baer). Uneventful recovery. Discharged March 15, 1896.

In all of the cases of malignant disease in which hysterectomy was performed, the cervix had been the seat of extensive laceration.

CELIOTOMIES.

CASE IX.—Matilda Z., æt. thirty-two. M. Two children. Endometritis. Bilateral laceration of the cervix. Retroflexion, with firm adhesions posteriorly. May 14, 1895. Ether. Curettage, trachelorrhaphy, and celiotomy at the same sitting. Several small cysts of the left ovary were punctured with the cautery and the uterus was freed and suspended after the method of Kelly. The incision was closed with four buried silver wire sutures. Uninterrupted recovery. Discharged in five weeks. Up to date of writing the non-absorbable suture has given no trouble.

CASE X.—D. Schf., æt. thirty-one. M. Three children. Abdominal fistula in the right iliac region, following appendicectomy, discharging pus freely. June 1, 1895. Ether. Fistulous tract opened up and six heavy silk ligatures removed. The peritoneal cavity was walled off with a Mikulicz bag, and the lower end of the abdominal incision closed with silkworm-gut sutures. Uneventful recovery. Discharged June 19, 1895. No hernia March 15, 1896.

CASE XI.—Kate G., æt. twenty. Single. Chronic endometritis, cirrhotic left ovary. Each menstrual epoch was attended with severe dysmenorrhea and hysterio-epileptic attacks. July 5, 1895. Ether. Curettage. Median section, left salpingo-oöphorectomy. The right ovary was found to be the seat of several small cysts, which were destroyed with the actual cautery. Uninterrupted recovery. Patient discharged in five weeks. At date of writing menstruation is attended with slight pain in the right ovarian region.

CASE XII.—Barbara G., æt. twenty-six. M. No children. Chronic endometritis, with retroflexed uterus. Cyst of the left ovary the size of a small orange. July 15, 1895. Ether. Curettage. Median section, left salpingo-oöphorectomy. A small cyst of the right ovary was punctured with the cautery and the uterus fixed to the abdominal wall with two silkworm-gut sutures (after Kelly). Discharged cured August 7, 1895. On examination March 15, 1896: Uterus in normal anteversion and freely mov-

able. Right ovary cystic the size of an English walnut, which condition is causing no pain.

CASE XIII.—Mary S., æt. thirty. M. Five children. Has complained of persistent backache and right-sided pain, intermenstrual, as well as at each period, for three years. Vaginal examination reveals a bilateral laceration of the cervix. The uterus is enlarged and retroflexed, with a small fibroid on the left, near the cervix. Right ovary cystic and prolapsed. May 30, 1895. Curettage, trachelorrhaphy, celiotomy. Numerous cysts of the right ovary punctured with the cautery. Fibroid subperitoneal and no larger than an English walnut, so was left undisturbed. The fundus uteri lifted up and suspended from the lower angle of the abdominal wound by two silkworm-gut sutures. The peritoneum, muscle, and fascia closed with interrupted sutures of buried silver wire. Recovery aseptie and prompt; Seen August 1, 1896. Free from pelvic pain. Menstruates regularly for four days.

CASE XIV.—H. Hrmn., æt. twenty-six. M. One child, instrumental delivery. Lacerated cervix. Uterus retroflexed, enlarged and adherent. Right ovary enlarged to the size of a lemon. She had suffered from severe pain in the back and right inguinal region at each monthly period. May 23, 1895. Curettage, trachelorrhaphy, and celiotomy. Uterus freed from adhesions and right tube and ovary removed. Fundus uteri suspended from the lower angle of the abdominal incision by two silkworm-gut sutures. Peritoneum, muscle and fascia coaptated with interrupted buried silver wire, and skin closed by a subcuticular stitch. Discharged in four weeks. At date of writing free from all pelvic pain.

CASE XV.—Mary E., æt. twenty-six. M. Three children. Puerperal fever with last labor. Uterus retroflexed and firmly bound down by adhesions. Suppurative disease of both adnexa. September 25, 1895. After a preliminary curettage, the abdomen was opened by a median section, exposing tubo-ovarian pus sacs on both sides. Double salpingo-oöphorectomy. Uterus freed and suspended (after Kelly). Abdomen closed without drainage. Discharged October 19, 1895. In perfect health March 15, 1896.

CASE XVI.—W. E. P., æt. forty-three. No children. (History already recorded, Hysterectomy, Case V.) Tubercular peritonitis. October 13, 1895. Ether. A median incision exposed the intestines, studded with miliary tubercles. Five pints of a sero-

purulent fluid were removed. Supra-vaginal extirpation of the uterus and appendages was abandoned, owing to the extent of visceral and parietal adhesions. The abdomen was closed in the usual manner and the pelvis drained through the vaginal vault. The convalescence was uneventful. Patient discharged November 18, 1895.

CASE XVII.—Agnes P., æt. thirty-four. M. No children. Ventral hernia in the right inguinal region, following appendectomy. Tumor size of a hen's egg. November 12, 1895. Incision to the side of the original scar. The sac contained a section of omentum, which was amputated by multiple ligature. Firm intestinal adhesions complicated the operation. The gut was torn open in two places and rents closed with a Lembert suture. After carefully exsecting the old cicatrix, the various structures of the abdominal wall were united, layer by layer, *i.e.*, fine silk for the peritoneum, silver wire for the fascia and muscle, and the skin closed by a subcuticular stitch of silkworm-gut. The convalescence was rapid and aseptic. August 1, 1896, no recurrence.

CASE XVIII.—Lizzie C., æt. twenty-three. M. No children. She had suffered from severe dysmenorrhea and intermenstrual pain in the back and right iliac region for the past two years. An ovarian cyst the size of a child's head displaced the uterus downward and backward in the pelvis. The left ovary was as large as an orange, and the tube contained pus. December 10, 1895. After a preliminary curettage, a section was made in the median line, exposing an unfilled cyst on the right side firmly adherent to the vesico-uterine space, with extensive intestinal attachments. Disease of the left adnexa made a double salpingo-oöphorectomy necessary. Intestinal and parietal adhesions complicated the enucleation of these tumors, and the parietal peritoneum was torn for a distance of some three inches near the bifurcation of the right iliac artery, which rent was closed with a running suture.

The pedicles were tied off with large catgut. A small quantity of pus escaped while peeling out the left tube, which leakage was removed by sponging, and the abdomen closed with drainage, the patient still being in the Trendelenberg posture. Three hours after the patient had been returned to bed primary hemorrhage occurred. Patient was placed in the inverted position, morphine administered, and further bleeding temporarily controlled by compression of the abdominal aorta through the

parietes. Abdomen reopened, clots removed, and the pelvis sponged dry. The bleeding was seen to come from the left ovarian artery and the broad ligament of the same side. The bleeding points were secured and the peritoneal sac flushed out with a normal salt solution; nearly a gallon was allowed to remain there. The wound was now closed with a twist gauze drain in the lower angle. Removed in twenty-one hours. The convalescence was slow, but uneventful, excepting for the occurrence of some stitch-wound infection. Discharged in five weeks.

CASE XIX.—Eliz. W., æt. thirty-six. M. No children. Specific vaginitis (chronic). Uterus anteflexed and enlarged. Left ovary cirrhotic, causing exquisite pain in the left side at each menstrual epoch. January 21, 1896. After a preliminary divulsion and curettage, celiotomy was made and the left tube and ovary extirpated. No adhesions. Wound closed without drainage. Discharged February 22, 1896. August 1, 1896, in perfect health.

CASE XX.—Anne D., æt. thirty-four. M. No children. One miscarriage at five months, instrumental delivery, followed by fever. Curettage and trachelorrhaphy at Roosevelt Hospital five years ago. A vaginal examination revealed the fact that the uterus was retroflexed, enlarged, and adherent posteriorly, and there was a purulent uterine discharge. An intra-ligamentous tumefaction of the right side was diagnosticated. January 23, 1896. Curettage, celiotomy. The right broad ligament was incised and a cyst the size of an orange enucleated from its folds. The peritoneal flaps were brought together with a running suture. A tubo-ovarian abscess of the same side necessitated salpingo-oöphorectomy. Several small cysts of the left ovary were punctured with the cautery. Ventral fixation. Abdomen closed without drainage. Afebrile recovery. Discharged February 25, 1896. Returned to clinic March 1, 1896, with thickening in the right broad ligament, which has subsided under rest, douches, and iodine. August 1, 1896. Uterus in normal anteversion and freely movable.

CASE XXI.—Mary D., æt. twenty. M. One child. Instrumental delivery, resulting in laceration of the cervix and pelvic floor. Uterus retroflexed, enlarged, and adherent. Left ovary cystic. February 29, 1896. Curettage, trachelorrhaphy, celiotomy. Several small cysts of the left ovary were punctured with the cautery. Posterior uterine adhesions freed and ventral fixation made. The convalescence was uneventful. The patient

has remained in the hospital for a perineorrhaphy at some future date, as her physical condition did not warrant further operative procedure at one sitting.

Ventral fixation was performed seven times with most satisfactory results. It has been my custom to leave the fixation sutures in for four weeks. In no case, at date of writing, has relapse occurred.

The destruction of small cysts of the ovary by puncture with the actual cautery has given but temporary relief of the pain and not checked further cystic degeneration in the organ involved. In Cases XI, XII, and XX the remaining ovary is sufficiently diseased at the present time to justify removal.

In Cases XV and XVIII the uterus was left, after removing both ovaries and tubes; in the former instance at the request of the patient; while in the latter, the longer time necessary to make a complete extirpation would have endangered my patient. Personally, I wish to go on record in stating that when a woman has to lose both adnexa, the uterus also should be ablated.

Buried silver wire uniting peritoneum, muscle, and fascia has been employed in five cases of this series with most pleasing results. Great care has been taken to perfectly coapt the fascia in each abdominal wound. In no instance has the non-absorbable suture given any subsequent disturbance. Stitch-hole abscess occurred but once (Case XVIII), and that was after the abdomen had been reopened for internal hemorrhage.

It is the writer's belief that better results may be obtained by complete hysterectomy than by leaving the cervix *in situ*, as practised by Baer, Goffe, and others, as better drainage is obtained when the ablation is complete. In two instances silk ligatures have become infected through the cervical canal three and four weeks after operation.

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NATIONAL SANITARY ASSOCIATION.

This Association held its Second Annual Convention in Brooklyn, October 13th-15th. The papers read were exceedingly interesting and instructive. The members visited Quarantine and Barren Island, and with other invited guests were entertained by Commissioner Emery and Dr. F. A. Jewett at the Crescent Club. The following officers were elected for the ensuing year: President, Dr. F. O. Young, of Lexington, Ky.; vice-presidents, Dr. H. C. McLean of Brooklyn, Dr. F. A. Jewett of Brooklyn, Dr. E. T. Benedict of New York, and Dr. E. A. Wilson of Meriden, Conn.; secretary, Capt. Thomas E. Veal of Atlanta, Ga.; treasurer, Col. C. E. Hoadley of New Haven, Conn. The next convention will be held in Lexington, Ky., in October, 1897.

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EDITORIAL.

WATER SUPPLY OF BROOKLYN.

The knowledge that the authorities of this municipality were investigating the sources of supply, together with the improvement in the smell and taste of the water, had done much to allay the anxiety which the people of Brooklyn had felt for several months that the water of which they had so long been proud had become so impure as to be no longer potable. One may be in doubt as to the freedom from adulteration of the coffee or beer one drinks, and still live a happy life, but the water he imbibes must be as free from suspicion as Cæsar's wife.

But, unfortunately, just as the public mind was becoming at rest, after the perusal of the report of Professor Bartley, and the reassurance of the Department of Health, comes a report from the Department of City Works, the tenor of which is to question the conclusion of the sanitary authorities, and leave the cause of the impurities, and consequently the remedy, in the same uncertain state it was before the investigation began. This latter report is that of I. M. de Varona, Chief Engineer of the Brooklyn Water Supply, and is dated October 6th.

Mr. de Varona quotes the opinion of Health Commissioner Enery that the bad odor and color of the water are due to the

presence of living and decomposing vegetable matter in the ponds, reservoir and distribution system," and then says, "this does not sufficiently specify nor does it locate the cause of the trouble." In referring to the report of Dr. Wilson, Bacteriologist to the Department of Health, he says that "the specific cause of the trouble and the points where it originates still remain, therefore, undetermined here."

He quotes from the report of Professor Bartley and Dr. Hutchinson, in which it is stated "that the air blowing over the pond (Valley Stream) had the odor characteristic of the decaying weeds," and "that the bad odor and taste of the water served to the city had been due to the taint imparted to it by the water drawn from these ponds, in which we find this large collection of decaying vegetable matter," and finally that the improvement observed was probably due to the fact that one of the worst of these tainted waters (Springfield pond) had been shut off. Mr. de Varona regards these opinions as a partial though still imperfect designation of the origin of the trouble, and its specific cause as yet undefined.

As to Professor Leeds' report, the Engineer says that the Professor locates the cause of the impurities in the sources of supply and not in the distribution system, but he has not proceeded far enough to determine its precise location, and quotes Professor Leeds' opinion that the "trouble may arise from exposure to air and light of the driven well-water," and that the products responsible for the present condition of the water are "volatile amides belonging to the aromatic series of organic compounds."

Having thus commented on the opinions of the Department of Health and of their consultants, Mr. de Varona states his own views as follows: "At the very outset of the present trouble the writer stated and recorded his belief that the cause of the complaint might possibly be due to the exposure of the driven well-water to light and air and its admixture with that from the surface supply." He states that the condition of the ponds is better than it has been for a long time past, the work of cleaning them and protecting the streams having been progressive for the last three years.

The explanation of the manner in which the objectionable odor and taste of the water from the driven wells is produced is thus given by Professor Leeds: "The waters in passing through the pores of the soil, acting as filters, have had their organic nitrogen removed. They usually contain few if any bacteria,

since these have either been detained in the process of the surface soil, or their work having been performed, they have perished for lack of nutriment. But such purified deep-well waters, when brought to the surface and then seeded by mingling with the surface waters, the seeds of new life have a most abundant nutriment and no organisms previously present to contend with them in the fierce struggle for existence, often multiply with inconceivable profusion."

We have very carefully read the reports of the sanitary officials, and we believe that whatever may be said as to their not having precisely located the cause of the trouble, they have shown a condition of things in the sources of supply sufficient to account for all that has been complained of. If one reads of the large collection of decaying vegetable matter in the ponds, found there by Professor Bartley and Dr. Hutchinson, and then reads the statement of the Engineer of the Department of City Works, that the condition of the ponds is better than it has been for a long time past, one wonders what the previous condition was, and is not surprised at the complaints of offensive odor and nauseating taste. We have also carefully read the report of Professor Leeds, the consultant of the Department of City Works, and much as we respect his opinion and value the report he has made, we think his evidence is not conclusive, and for the following reasons. Professor Leeds' instructions were to investigate :

"1st. The nature of the substances that give to the water its offensive odor and taste, and the nature of the suspended matter that floats about in the otherwise colorless water in the form of whitish filaments or strings.

"2d. Where and through what agencies these substances originate.

"3d. Are the substances dangerous to health?

"4th. The remedy."

It would seem as though these instructions were broad enough to cover the whole question, and yet we find that Professor Leeds made no investigation at all of the "feeders, streams, ponds, storage reservoirs, driven wells and deep wells, that together constitute the system of collection of the Brooklyn Water Supply." He says, "the mere physical fact of the large area occupied by the system of collection, and that the work of inspecting and collecting all these waters could not be delegated to others, but that I should have to traverse the whole system on foot or wagon myself : moreover, that the time thus spent would be taken from

the all too brief period in which to conduct the laboratory work; these considerations, you will remember, decided us to confine the investigations at the present time to the distributive system only."

It seems to us that to determine "where and through what agencies these substances (that give to the water its offensive odor and taste) originate," it was to the "collection system," rather than to the "distribution system," that special attention should have been directed. It does not appear quite clear why it would have been any more necessary for the Professor himself to collect the samples from the ponds and not delegate this duty to others, than to have collected the water from the homes of complainants, and yet we find in the report the statement that "your assistants (assistants of the Engineer of Water Supply) collected many samples for me from householders who had filed letters of complaint." It is much to be regretted that the condition of the streams and ponds was not subjected to a rigid examination by Professor Leeds.

However much the municipal authorities may differ as to the cause of the present trouble, they all seem to be agreed on the necessity of continuous biological examination of the water, not only in order to determine the cause of present impurities, but to guard against their future production.

The Engineer proposes that the Department of City Works shall construct, equip and maintain a laboratory for this purpose, and the Commissioner of that department in his letter to the Mayor, transmitting the Engineer's report, states that "the work laid out and recommended by Mr. de Varona in order to definitely diagnose and locate the origin of the present trouble and prevent its recurrence is being actively pursued, and that the installation of the necessary laboratory to thoroughly study our water supply in the light of the latest discoveries of modern sanitary science, and in a scale befitting our great city, is being carried on and will be completed as speedily as possible."

It has since been announced that to inaugurate this new bureau Professor Leeds has been engaged by the Commissioner.

With all due respect for this department of the municipal government we think that the public, and we know that the medical profession would much prefer that such a laboratory should be under the supervision of the Department of Health. It seems unnecessary in view of our financial condition as a city that such work should be duplicated, and if but one such laboratory is to

exist it should be that of the Board of Health. It is to this organization that the city looks for the protection of its sanitary interests, and not to the Department of City Works, whose functions are of a totally different nature. The placing of the two duties, the proper care of the sources of the water supply and the determination of whether that duty is properly performed, upon the same body is not the way most likely to accomplish the desired result. The history of the manner in which the streams contributing to the water supply have been guarded in the past—we speak now not of the recent past—is such as to guarantee a purer supply if the watch-dog is under the direction of the Health Department. We have no doubt but that the Health Commissioner would enjoy the freedom from responsibility which would follow from the assumption of this sanitary duty by the City Works officials, but he owes it to the people to establish and maintain such laboratory facilities as will enable him to pass upon the condition of the water so far as it is likely to affect the public health, and so far as the Board of Estimate will by the appropriation of the needed money give him the power, and we hope that he will not relinquish his prerogative, even though it be to an associate in the Mayor's cabinet.

INDEX TO THE MEDICAL PRESS.

We regret exceedingly to learn that the completion of the first half-yearly volume of the Index, with the September number, has entailed a loss on the enterprising publishers of \$1500, and that it has been deemed prudent to suspend its publication, unless a means be found to limit the possible loss to \$2000. That the publishers are willing to continue, even at this sacrifice, is evidence that they have every confidence in the profession and that when the value of the publication is once appreciated its subscription list will be all that could be desired. If the Press were more generally studied by the writers of current medical literature, we feel sure that the amount of this material would be very much diminished, for many ideas find their way into print because, owing to an ignorance on the part of the writers as to what has been already written, they think their observations are new and their deductions original. It ought not to be difficult to obtain three hundred new subscribers. A letter to Frank Weir & Co., 247 West Fiftieth street, requesting a sample copy, will meet

with prompt response, and if, at the same time, a check for \$2.00 is enclosed, the sender will not only receive full value, but will materially aid in sustaining an enterprise which helps the entire profession.

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PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society Building, on Tuesday evening, September 15, 1896, at 8.30.

The President, Dr. Geo. McNaughton in the chair.

There were about seventy-five members present.

The minutes of the June meeting were read and approved.

REPORT OF COUNCIL.

The Council reported favorably upon the following applicants and recommended that they be elected to membership :

Dr. Edward Hodges, L. I. C. H., 1895.

Dr. Ira Ayer, Jr., L. I. C. H., 1892.

Dr. E. S. Mars, Coll. Cent. Tenn., 1896.

Dr. Alfred Bell, P. & S., N. Y., 1895.

Dr. K. R. Owen, Wom. Med. Coll., Baltimore, 1896.

Dr. George Essig, Bell., 1893.

Dr. Walter Truslow, L. I. C. H., 1895.

APPLICATIONS FOR MEMBERSHIP.

The Secretary presented the following applications :

Dr. H. L. Gill, 279 Dean street ; proposed by Committee on Membership.

Dr. D. W. Meyer, L. I. C. H., 1894 ; proposed by Committee on Membership.

Dr. G. G. Thomson, 11 Lincoln place ; proposed by Committee on Membership.

Dr. E. N. B. Boystrom, 147 Warren street ; proposed by Committee on Membership.

ELECTION OF MEMBERS.

The following having been regularly proposed and favorably acted upon by Council, were declared by the President elected to membership :

Dr. Wm. C. Schoenijhan, P. & S., N. Y., 1894.

Dr. Henry H. Waugh, Wooster Univ., Ohio, 1891.

Dr. Caroline S. J. Rickards, Wom. Med. Coll., Pa.

Dr. Charles Gartner, Albany, N. Y., 1895.

Dr. Henry L. Winter, Univ. N. Y., 1892.

Dr. Gustav Liebermann, Univ. N. Y., 1887.

Dr. Wm. C. Weekes, Univ. N. Y., 1896.

Dr. Cyrus Hamlin, L. I. C. H., 1896.

SCIENTIFIC BUSINESS.

Dr. John C. Shaw presented a paper entitled "Cretinoid Myxedema treated by Desiccated Thyroid", with illustration.

Discussed by Drs. Arthur C. Brush, J. M. Winfield, Wm. Browning, Jos. H. Hunt, Henry N. Read, Lucy Hall Brown, and Arthur Mathewson.

There being no further business, on motion adjourned.

D. MYERLE, M.D., Secretary.

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BROOKLYN GYNECOLOGICAL SOCIETY.

April 3, 1896.

The President, Dr. A. Ross Matheson, in the chair

PRESENTATION OF SPECIMENS.

Dr. Geo. McNaughton: The history of this specimen is as follows:

Patient, thirty-three years old; married fourteen years, mother of two children; two miscarriages, last one three years ago. Menstruated regularly from that time until January of this year, at which period the flow did not appear. The patient supposed herself pregnant, and took drugs hoping to interrupt it. She was gratified when a uterine flow commenced about eight days later than its expected time. The flow came in gushes, and without pain.

On Saturday, March 21st, she was taken with severe hypogastric pain. Hypodermics of morphia were given. Her occupation during that day had been working a sewing machine. A diagnosis of tubal pregnancy was made by Dr. F. H. Stuart, also diagnosis of intraperitoneal hemorrhage. I saw the patient in consultation and agreed as to the condition. The flow had evidently ceased when I saw her, which was some hours after the onset of the symptoms, therefore it was thought best to wait until the next day, as she was living in an improper place to do an operation of that kind. On the following day an operation was

done at the Long Island College Hospital. As soon as an opening was made into the peritoneal cavity the tumor was plainly visible. Rupture had taken place in the tube, about an inch and a half from the uterus ; there was considerable blood in the peritoneal cavity, a good many clots here and there, which we picked out as well as we could after ligating the tube close to the uterus, also putting on a ligature at the other end ; the mass between the two ligatures was then removed—the mass contained the tube, blood clots, and right ovary.

Her convalescence has been without anything worthy of mention : she has had no rise of temperature. After we had picked out all the clots possible with the sponge, the peritoneal cavity was washed out with a saline solution and it appeared pretty bloody, due, I think, to the washing of the clots we could not get hold of.

I do not think it is possible to always remove clots, and it seemed to me it was rather foolish to look for anything like the products of conception in that case.

Dr. Stuart did not operate on this case because he had a disabled arm.

Dr. Jewett : I would like to ask if the adnexa on this side were very much adherent—whether the uterus was freely movable or not ?

Dr. McNaughton : No, sir ; there were quite a number of adhesions.

Dr. Jewett : Even so, I think it is sometimes possible in such a case to handle it safely through the vaginal incision. I do not believe it necessary to attempt to remove all blood clots in aseptic cases. Prolonged cleansing of the peritoneum may do more harm than a few clean blood clots.

The apparently fresh hemorrhage was probably due to the salt solution. Old blood takes on the bright color of fresh blood under the action of salt.

The use of the salt solution is a great gain, leaving a quart or more in the abdomen. It is rapidly absorbed from the peritoneum, and is especially useful in cases that have bled much, provided the vessels have first been secured.

Dr. L. Grant Baldwin : I have a specimen of interest in this connection, which perhaps might be discussed with Dr. McNaughton's specimen.

This is also a product of extrauterine pregnancy. The patient, a healthy Swede, thirty-eight years old ; married, the mother of

three children, the last one four years old. She had never had any menstrual or other trouble until she skipped her menstruation on the 22d of January. She did not consider herself pregnant, and she had no trouble until the 17th of March, when, after a hard day's washing, she was taken with severe pain in the abdomen, which did not amount to much and medical aid was not sought. Two days later she had a severe attack, which was on Friday, when she did send for a doctor, and he made a diagnosis of probable appendicitis at that time. She was given palliative treatment and put to bed, and on the Monday following, at about six o'clock in the morning, the doctor was sent for in haste as the patient was dying. He found her dying, as he supposed, but she responded to treatment, and a diagnosis of ruptured tubal pregnancy was made. It came under my care on Tuesday. She was taken to the hospital and operated on on Wednesday, and this is the specimen, the first one that I ever removed with the fetus in situ; the specimen is complete.

The amount of blood that was lost was the most I have ever witnessed. It was fluid, so I was unable to measure it, but the belly was full and so exsanguinated was she that in opening the abdomen the blood that was spilled simply made a yellow mark running over the abdomen.

The other tube contained an old hematoma with extensive adhesions. There was no special trouble in the operation, but this lacks the interest of Dr. McNaughton's case, for she never properly rallied and died three days later, due, I felt sure, to her lack of vitality from the excessive loss of blood.

Dr. W. B. Chase: I would like to ask Dr. Baldwin if this was a rupture of the tube into the peritoneal cavity? I take it, it is not into the broad ligament.

Dr. Baldwin: Right on the free surface, farthest away from the broad ligament.

Dr. Chase: I notice that both of these cases ruptured into the peritoneal cavity, whereas, in the greater number of cases the rupture is into the broad ligament.

Dr. Jewett: It is an interesting question how to preserve these specimens. Some success has been had with formalin. Dr. Baldwin is doubtless aware that Dr. Williams of Baltimore has published a request for such specimens, for the study of ectopic pregnancy.

Dr. L. G. Baldwin: In this case of Dr. McNaughton's, was there the usual shock?

Dr. McNaughton : No ; she suffered a great deal of pain, requiring hypodermics, but there was no special shock accompanying it. I think that is very often absent.

Dr. Baldwin : This case of mine was the first case I have ever had where I operated, where there was any of the shock at all that the books tell about. In every other case the patient has been able to be up and around in a few hours.

Dr. Jewett : It is a common thing to be in doubt whether or not there is sufficient indication to open the abdomen in some of these cases. You cannot be entirely sure of the existence of intraperitoneal hemorrhage where there is very little of it, and an explorative incision by the vagina may sometimes be permitted when the abdominal incision would be refused.

Dr. McNaughton : I have seen quite a number of these cases, and I do not recall one that I would be willing to open into the vagina by that method. I should want to see, because you have omental attachments and other adhesions, and you get hemorrhage from them serious enough to require ligature, a condition which would be awkward to manage through the vagina. I think if you suspect a ruptured tube it would be more satisfactory to go in above it. The condition is serious enough to warrant going into the peritoneal cavity, at least I should think so from the cases I have seen.

Dr. Jewett : Lest I may be misunderstood, I would say that I quite agree with Dr. McNaughton. What I referred to last was simply an exploratory incision for diagnostic purposes. There, of course, is no great advantage in going in below, except for the reason I mentioned.

Dr. Baldwin : In this case of mine, Mr. President, the diagnosis, except for the profound symptoms, would have been very much in doubt. Although there was a bogginess to the posterior cul-de-sac there was nothing of the usual feeling of intraperitoneal hemorrhage, and yet it was the largest I have ever seen. This mass could not be made out through the abdomen by bimanual manipulation, and the only thing we had to guide us in the operation was the terrific attack of pain, followed by shock and apparent loss of blood ; but by physical examination there was practically nothing to be made out.

Dr. McNaughton : You have practically the same conditions if you have a ruptured appendix, or gastric ulcer that has broken through into the peritoneal cavity—you get exactly the same symptoms, and I do not see how they can be distinguished unless

you have loss of blood accompanying it, and you might get that from an ulcer in the bowel.

Dr. Baldwin : There are instances where there have been four or five surgeons who have seen a case and diagnosed it ectopic pregnancy—I remember two last winter, both of which turned out to be ruptured pus tubes, with a history of amenorrhea, the pain coming on which is characteristic of ectopic pregnancy, and as perfect a history as you could obtain.

Dr. Jewett : Dr. McNaughton will remember two cases in which he operated about a year ago, which were identical in history and physical signs. One proved to be an ectopic gestation, and the other an ovarian abscess between the folds of the broad ligament.

Dr. McNaughton : Yes, with exactly the same symptoms.

Dr. Baldwin : I believe the important thing in these cases is the pain. When women describe the pain in the peculiar way they do, where there is involvement of the peritoneum with some foreign body it is different from pain from menstruation or ordinary intestinal pain—if you pin them down to it you find the pain is distinctive, and I believe, as a rule, it justifies an exploratory incision, whether by the abdomen or the vagina, purely from the pain.

Meeting of May 1896.

PRESENTATION OF SPECIMENS.

Dr. L. G. Baldwin : I have a specimen, Mr. President, with some points in the history of the case which are perhaps worthy of mention.

It is a true uterine stone, which I believe is uncommon.

The patient was fifty-one years of age, a native of Ireland, single, and had never borne a child. She passed the menopause at thirty without any trouble. A year ago her abdomen began to increase in size rather slowly for six months, and the last six months very rapidly until, at the time I saw her, it was about double the size of full-term pregnancy. She never had any discharge from the vagina, either bloody, serous, or pus, or ordinary leucorrheal discharge ; in fact had had no symptoms since the change of life to call her attention to any trouble. During this year she lost flesh rapidly. I saw her and I was unable to make any diagnosis further than ascitic fluid with some mass in the abdomen, which I thought was a cyst. I

did an exploratory abdominal section and drained away what proved to be only ascitic fluid but no cyst, the mass that I felt being the uterus, which was about the size of four months' pregnancy. This was carcinomatous, and the cervix was so attenuated that a supravaginal amputation was easily done. The center of the growth was as soft as broken-down malignant material could possibly be, the cervix being entirely normal. There were several nodules on it which appeared like fibroma, and in the center of one of these was this stone, near the periphery, not in any way connected with the cavity. I hoped it might show on microscopic examination some fibroma, and this possibly was a case of fibroma becoming malignant, but it was all carcinoma.

The points of interest are, the rarity of true uterine stone, and in the second place, the woman passing the menopause at thirty and going twenty years without symptoms and then presenting the condition described. She died; the omentum and omenteric glands throughout were extensively involved.

Dr. Maddren : Is it ossified or calcareous tissue?

Dr. Baldwin : Calcareous degeneration, I should think.

Dr. Shoop : It would be interesting to know whether some foreign body got into the uterus, and became the nucleus of this stone.

Dr. Maddren : That could not be classed histologically as a fibroid?

Dr. Baldwin : That was the point. I said I hoped it might be proved histologically a fibroid, but the microscope showed the entire growth to be carcinoma.

Dr. Maddren : All the growth from which this was taken?

Dr. Baldwin : Yes, this was the calcified portion; the rest was perfectly soft.

NARRATION OF CASES.

Dr. Gordon : I delivered a woman two weeks ago, who lives in an apartment-house with a friend whose leg I amputated four or five years ago at the junction of the middle and upper third. Not knowing she was pregnant, she examined the stump in the first three or four weeks of pregnancy. When delivered the child had an arm amputated at the junction of the middle and upper third. It was a complete picture of the stump of the amputated leg.

I present the case for what it is worth. I have never thought

there was very much in maternal impressions, but that, it seems to me, is quite a striking case.

The President : It is rather singular that the maternal impression should have been in error, an arm instead of a leg—an excellent selection apparently.

Dr. F. J. Shoop : I might mention here a specimen which I showed to the Pathological Society some time ago, from a case of Dr. Freeman's. The mother was a neurotic woman and in her early months of pregnancy, I think the first or second, a relative of hers had died who had given her a bangle ring, and during her pregnancy she looked at it and thought of it a great deal. When the child was born there was a rudimentary sixth finger hanging from the first phalanx of the little finger on each hand, perfectly round, about the size of a three-cent piece, a nail on each one, and the cartilaginous bone between the bangle and the finger. They were amputated and I have them in a phial in my office.

Dr. Frank Baldwin : It is noticeable that in these two cases the impressions were received in the first weeks of pregnancy. I have had several cases in my practice where the families claimed there were maternal impressions, but almost invariably the impression was made during the seventh or eighth month. If there is anything whatever in the theory of a child receiving a deformity or mark from any mental impression the mother may experience, it must be made during the early days of pregnancy.

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BROOKLYN MEDICAL ASSOCIATION.

The first stated meeting of the Brooklyn Medical Association (recently organized) was held on Wednesday evening, October 14th, in the rooms of the Association in the Johnston Building, Fulton and Flatbush avenues. After the transaction of regular business Dr. Charles W. Cunnion, the president, addressed the meeting, setting forth the objects of the Association, its advantages, etc. The following papers were read : "The Pupil," by B. F. M. Blake, M.D. ; "Report of an Unusual Case of Monstrosity," by Arthur C. Jacobson, M.D. ; "Functional Diseases of the Male Sexual Organs," by G. Morgan Muren, M.D.

Light refreshments were served.

HISTORICAL DEPARTMENT.

JOHN BAPTIST MORGAGNI, M.D., F.R.S., ETC., ETC., ETC.

“*Vir ingenii, memoriæ, studii incomparabilis.*”—*Haller.*

“The founder of Pathological Anatomy,” whose portrait, taken from an extremely rare portrait by Renard, is to be found in this number of the *JOURNAL*, was born at Forlì, an Italian town near Bologna, in 1682.

We are told that he was a precocious student, and at school he was conspicuous for his readiness and his acquisitions in study. At the age of sixteen he entered the University of Bologna, where he took his medical degree three years later, in 1701.

He at once began to act as prosector for the celebrated Valsalva, his teacher of anatomy, and assisted him in preparing his classical work on the Anatomy and Diseases of the Ear, which was published in 1714. Morgagni is said to have made the greater number of preparations described in the work. Many years after (1740) Morgagni edited a collected edition of his teacher's works with important additions to the treatise on the ear, and a memoir of Valsalva. He also supplied the place of Valsalva as teacher of anatomy at a time when the latter was on a visit to Parma, and became exceedingly popular as a lecturer, being “eloquent in discourse, and illustrating his subjects by a great variety of preparations.”

While a resident of Bologna he was made President of the Academy, though at the time but twenty-four years old, and is said to have marked his incumbency of the presidential chair by discouraging abstract speculations, and insisting upon exact anatomical facts and reasoning based thereon.

His own communications to the academy were some of them published as the first of his “*Adversaria Anatomica*,” which was followed by five more published at different times and places. The first, as stated, at Bologna, and the remainder at Padua, to which place he had transferred the scene of his studies and teachings. They were collected and published at Padua in 1719, and afterwards at Leyden in 1723, a copy of which edition is one of the writer's treasures. There is another Leyden edition of 1740, and one was published in Venice in 1762. This work, with

his *Anatomical Epistles* published in 1728, contains a series of observations published to rectify the mistakes of previous anatomists, and to determine the characters of the healthy structure of many parts of the human body. Many parts he describes anew, and indicates facts not previously observed. A distinguished writer has said: "All his remarks show how well he knew what true anatomical description ought to be."

The same writer groups Morgagni with his two friends, Santorini and Valsalva, forming a triumvirate who "may be said to have anticipated their contemporaries nearly a century; for while other authors were satisfied with giving loose and inaccurate or meager notices of parts, with much fanciful supposition, Valsalva, Santorini, and Morgagni labored to determine with precision the anatomical characters of the parts which they describe."

After spending some time in the celebrated Universities of Padua and Venice, Morgagni settled down to the practice of his profession in his native town of Forlì, where he rapidly achieved a reputation only limited by the environments of the small town in which he lived. For three years he worked as a practicing and consulting physician, "attentive in observation, cautious in prediction, and happy in his cures." Tiring of the drudgery of general practice, and wishing to enlarge his sphere, he removed to Padua, and succeeded Vallisnieri in the chair of theoretical medicine in the University, where he taught with the most brilliant success for sixty years. Most of the time, however, in the chair of anatomy, which he assumed in 1715, where he was the successor of a brilliant line of scholars, including Vesalius, Fallopius, Fabricius, Gasserius, and Spigelius. What wonder that the University of Padua attracted the aspiring medical minds of the world!

It is said that such was his fame that the Senate from time to time increased his stipend, until it reached the sum of 1200 gold ducats annually, much more than was given to any of his contemporaries. A writer says that he lived in harmony with his colleagues who did not envy him his unprecedentedly large salary; his residence and lecture-room were frequented by students of all ages, attracted from all parts of Europe. No person of any learning came to Padua without seeing and conversing with Morgagni, and no one ever left him without admiring equally his character and his teaching. Among his personal friends were Charles Emmanuel III., King of Sardinia; the Popes Clement

XI., XII., and XIII., and Benedict XIV. In his own profession were such men as Valsalva, Lancisi (whom he assisted in producing the anatomy of Eustachius), Verheyen, Heister, Ruysch, Berhaave, Richard Mead, and numerous others of scarcely less renown. The fact that he was the teacher of Scarpa (who died in 1832) connects him with modern medicine.

He lived to a good old age, nearly ninety, and did not cease work even after he had become blind, and it was not until he had reached full maturity, beyond the age of but few, that he wrote the great monumental work which marked an epoch in our profession, "made pathological anatomy a science, and diverted the cause of medicine into new channels of exactness or precision." It bears the title, "*De Sedibus et Causis Morborum per Anatomicen Indigatis Libri Quinque*," and was published in Venice in 1761, when the venerable author was seventy-nine years old. It consists of five books, the first dedicated to Trew, the second to Bromfield, the third to Senac, the fourth to Schreiber, the fifth to Meckel, and contains seventy letters. The men to whom these dedications were made were regarded by the author as the representatives of five of the many learned societies of which Morgagni was a foreign member.

The following is given in the words of the author, taken from the preface, as translated by Benjamin Alexander in 1779: "The anatomical writings of Valsalva being already published, and my epistles upon them, it accidentally happen'd that, being retir'd from Padua, as in those early years I was wont frequently to do in the summer-time, I fell into company with a young gentleman of strict morals and an excellent disposition, who was much given to the study of the sciences, and particularly to that of medicine. This young gentleman, having read those writings, and those letters likewise, every-now-and-then engaged me in a discourse, than which nothing could be more agreeable to me; I mean, a discourse in respect to my preceptors, and in particular Valsalva and Albertina, whose methods in the art of healing, even the most trifling, he was desirous to know: and he even sometimes inquired after my own observations and thoughts as well as theirs.

"And having among other things, as frequently happens in conversations, open'd my thoughts in regard to the Sepulchretum, he never ceas'd to entreat me by every kind of solicitation, that I would apply to this subject in particular: and, as I had promised in my little memoir upon the life of Valsalva, to endeavor

that a great number of his observations, which were made with the same view, should be brought to public light, he begged that I would join mine together with them, and would shew in both his and mine, by example as it were, what I should think wanting to compleat a new edition of the *Sepulchretum*.

"I therefore produce observations which have never been published before, a great number of which are Valsalva's, not a few of my friends, but the greater part mine. * * *

"For, finally, in respect to my own observations, I have particularly related in each the year, month, and place in which they were made, and who assisted me, or were present at the time, unless I had sufficiently done it before," etc., etc.

Thus the example was established for all future records of observations of medical cases, and one who studies this work will find that the standard then set was sufficiently elevated to suit the most exacting of to-day. "The principal objections to the work are the periphrastic style, the profuseness of which almost suffocates the sense, an unsupportable minuteness in detail of collateral and unimportant circumstances; a tedious repetition of observations; and an artificial division of diseases into those of the head, of the thorax, of the belly, and into the surgical and universal disorders." (Horner).

Such was the renown of the book that during the few years that remained of the author's life, and notwithstanding the immensity of the work, three editions in the original Latin were brought out within four years, and it was translated and published in French (1765), German (1771), and an English edition in three quarto-volumes in 1769, a copy of which is in the writer's library.

It is justly styled "One of the most precious monuments of our art," and the student of Morgagni will appreciate the words of the genial Holmes, that "The old is not all ancient, nor is the modern always new."

Morgagni is described as a man of fine stature, robust constitution, and possessed an agreeable and lively countenance.

He died December 5, 1771, having then nearly completed his ninetieth year, in the possession of his mental faculties, though he was the father of fifteen children.

"Of no distemper, of no blast he died,
But fell like autumn-fruit that mellowed long,
Ev'n wondered at, because he dropp'd no sooner.
Fate seemed to wind him up for four-score years,
Yet freely he ran on ten winters more;
'Til, like a clock worn out with eating time,
The wheels of weary life stood still." —Dryden's *Œdipus*.

Besides the portrait published, which is from Pettigrew's Medical Portrait Gallery, the writer possesses a folio portrait engraved by Jean Renard in 1762, nine years before Morgagni's death, and the portrait prefaced to the *Adversaria Anatomica* (previously noted), representing the author in 1718, engraved by J. N. French.

He also has an autograph note of Morgagni's, written at Padua, December, MDCCCLX; and the Morgagni bronze medal issued in Rome, 1858, a picture of which was presented in the *JOURNAL* of January, 1896.

His was the expression that "Ideas should be weighed, not measured." Numerous editions of his various works have been published. The titles form a list occupying nearly three columns of the Index-Catalogue in the Surgeon-General's office.

J. H. H.

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WHO DISCOVERED ANÆSTHESIA?

This has been a living question for nearly half a century.

Could it have been settled in 1849, or in 1852, 1853, or in 1863, which are the dates of the different times the subject has been before the United States Congress, the country stood ready to grant a substantial recognition to the individual who had conferred this great boon on the human race.

If it could have been answered in 1867, the beautiful monument which was that year erected in Boston's Public Garden "To commemorate the discovery that the inhaling of Ether causes insensibility to pain," would not have remained without an honored name upon its shaft.

That the battle has been vigorously and stubbornly fought is shown by the great amount of literature on the subject which helps to crowd our library shelves and the pages of the medical journals of the period between 1846 and 1868, the list of which fills no less than twenty-five columns in the catalogue of the Library of the Surgeon-General's Office, and which does not embrace all which are known to the writer.

During the month just past there have been numerous celebrations of the semi-centennial of the first application of sulphuric ether for surgical purposes in the Massachusetts General Hospital, which occurred on the 16th of October, 1846. The operator was Dr. John Collins Warren, an eminent surgeon of that time,

and the person who administered the anæsthetic was William T. G. Morton, a dentist of Boston.

If this was really the first time that artificial anæsthesia was produced for surgical purposes, either the name of Warren or Morton or both should occupy the blank on the Ether Monument.

Unfortunately, no sooner had Morton sought public recognition for the discovery, than several other claimants appeared on the field, each ready to prove that Morton was an impostor, and that Jackson, Wells, *et. al.*, were the true discoverers.

Sulphuric ether was known to Raymond Lully, who wrote in the Thirteenth century. Nitrous oxide gas was discovered by Priestly in 1790.

Anæsthesia had been claimed by numerous writers from the time of Albertus Magnus.

Sir Humphrey Davy discovered the intoxicating effects of nitrous oxide gas in 1799, and recorded that "As nitrous oxide in its extensive operation seems capable of destroying physical pain, it may probably be used with advantage in surgical operations in which no great effusion of blood takes place."

In 1816, Michael Faraday wrote: "When the vapor of ether mixed with common air is inhaled, it produces effects very similar to those of nitrous oxide. By the imprudent inspiration of ether, a gentleman was thrown into a very lethargic state, which continued with occasional periods of intermission for more than thirty hours. * * * Considerable fears were entertained for his life."

Available space will only allow us to summarize the following facts: In March, 1842, Dr. Crawford W. Long, a physician practicing his profession in Jefferson, Georgia, administered ether for anæsthetic purposes, and successfully removed a tumor from the neck of a young man named Venable, without the patient being conscious of the pain.

In December, 1844, Mr. Gardiner Q. Colton, now living in New York City, and whose portrait is to be found in this number of the JOURNAL, administered nitrous oxide gas to Dr. Horace Wells, a dentist of Hartford, Ct., and Dr. John M. Riggs, another dentist, pulled a tooth from Dr. Wells without his consciousness. (This was done at the suggestion and request of Dr. Wells.) Dr. Wells continued from that time to administer the gas as an anæsthetic to his patients, and experimented with ether, but re-

jected it on account of its bad odor and the fear of danger from its use, as suggested by the experience related by Faraday.

In September, 1846, Dr. William T. G. Morton, a dentist of Boston, called on Dr. Charles T. Jackson, a learned chemist, in the same city, for information as to how to prepare nitrous oxide gas, and on informing the Doctor that he wanted it to produce insensibility from the pain of extracting teeth, Dr. Jackson advised him to try sulphuric ether, which had similar properties, and could be purchased in any drug store.

That evening, September 30, 1846, Dr. Morton administered the ether to a patient and extracted a tooth without pain.

On October 16th, he administered it in the Massachusetts General Hospital as before stated.

Morton made the mistake of attempting to keep his material a secret, and in company with Jackson, who had only acted as consulting chemist and given him the information, which was well known to all scientific students since Faraday, secured a patent on what they called "Compound Letheon," and sold or attempted to sell the right to use the material to other dentists and surgeons. It was only when Morton found that American surgeons would have nothing to do with anything which savored of patent or secret medicines that he relinquished his claim, at least as far as the Massachusetts General Hospital was concerned.

In view of the acrimonious discussions which the subject has produced it is perhaps as well that the purity of Boston's marble monument should not be sullied with the name of either of the discontents.

If it must bear the name of the discoverer of ether-anæsthesia, let it bear those of Faraday and Crawford W. Long.

Had the monument been erected to commemorate the discovery of anæsthesia without regard to the agent, its shaft should bear the additional names of Sir Humphrey Davy, G. Q. Colton and Dr. Horace Wells.

J. H. H.

MISCELLANEOUS.

MIXED TUMORS OF THE OVARY.*

BY WALTER B. CHASE, M.D.

Gynecologist to the Bushwick Hospital,
Brooklyn, N. Y.

Mixed tumors of the ovary have a peculiar interest, for the reason that if small they are often difficult of diagnosis. They may be made up of a variety of cysts or may be a combination of cystic and solid growths. The ætiology of tumors as a whole is a matter of great importance both in relation to diagnosis and treatment.

The question of what constitutes a tumor might be considered with profit. Senn, in his recent classical work on the Pathology and Surgical Treatment of Tumors, defines a tumor as a localized increase of tissue-proliferation of embryonic cells of congenital or post-natal origin. An important fact concerning true tumors is that they never disappear except by removal or destruction. Benign tumors always remain local, while malignant tumors are disseminated by migration or transportation of their peculiar cells, and they always originate as benign or malignant growths.

Chronic inflammatory enlargements of microbic origin, as tuberculosis, syphilis, and glanders, must be excluded from the list of tumors. As to the histogenesis of tumors it may be affirmed that a tumor never develops *de novo*, but is always the product of tissue-proliferation from a matrix of embryonic cells. The division of embryonic structure into epiblastic, hypoblastic, and mesoblastic papilloma, cystoma, adenoma, and carcinoma originates in the epiblastic and hypoblastic tissue; sarcoma, fibroma, and neuroma spring from the mesoblastic layer, while dermoids find their origin in a combination of the three several layers of embryonic structures and belong to the class of teratomas and their blending, infolding, or displacement forms the basis of mixed tumors of the ovary. If the tumor-matrix is made up of embryonic cells of the lowest development, there is greater liability to malignant growth than if fine tissues, susceptible to the highest physiological type of

* Abstract of paper read before the American Association of Obstetricians and Gynecologists at Richmond, Va., September 22, 1896.

development. Retention-cysts of the ovary are not tumors in a technical sense, and they never attain large size. Large ovarian-cysts are most often cyst-adenomas, and are not developed from Graafian follicles, but arise from the embryonic structure.

It would seem from what has been said that the genesis of simple and mixed tumors was divested of much that was misleading and contradictory, and reduced to a rational basis. It also demonstrates with great clearness that tumors are not only of local origin, but in their inception are congenital. The case reported which was operated on by the writer at St. John's Hospital, August 4, 1894. As reported by Dr. H. P. De Forest, Pathologist to the Methodist Episcopal Hospital, this was a mixed tumor of the left ovary, consisting of a large cyst-adenoma (containing about two gallons of clear, straw-colored fluid), a dermoid intimately united with the cyst-adenoma containing less than a quart of fluid, having true, bony plates in its wall, and numerous papillomas encysted within the walls of both cysts, belonging to the group of teratomatous tumors.

DEPARTMENT OF HEALTH—BROOKLYN, N. Y.

CIRCULAR REGARDING TETANUS ANTITOXIN.

OCTOBER 8, 1896.

The Health Department is now prepared to furnish to physicians and hospitals antitoxin serum for the treatment of tetanus. Each vial will contain 20 c. c. of the serum, but the dose will vary with the age of the patient, the severity of the attack and the time in the disease when the treatment is begun. The remedy is administered in the same manner as diphtheria antitoxin, by hypodermic injection, using a large syringe and carefully sterilizing the syringe and the skin before making the injection. Some point on the anterior surface of the body is preferable for the injection. Too much emphasis cannot be placed on the vital importance of injecting the serum at the *earliest possible moment*, as every hour's delay decreases the chances of success and requires larger doses to overcome the amount of toxin produced and absorbed. When the treatment is begun at the first appearance of tetanic symptoms, 20 c. c. should be injected at once, and 10 c. c. at intervals of six hours for the four following days. If the treatment is not begun until three or

four days after the onset of tetanic symptoms, 20 c. c. should be used at once, and repeated at short intervals according to the results. The use of the serum does not preclude the employment of other methods of treatment by the use of antispasmodics. The wound should be treated with some strong preparation of iodine, such as strong tincture, to destroy the toxin in it. Carbolic acid and bichloride of mercury are of little use for this purpose.

The exact value of this method of treatment has not been fully determined, and it is very desirable that full reports be sent to the Department of each case, and the result of the treatment.

Communications on this subject should be addressed to Dr. E. H. Wilson, Chief of the Bureau of Bacteriology, Hoagland Laboratory, Henry and Pacific streets.

Z. TAYLOR EMERY, M.D.,
Commissioner.

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BOROLYPTOL LITERARY CONTEST.

Prizes amounting to \$600 have been awarded to ten physicians for essays submitted in this contest. These essays will be mailed to any physician sending a request to the Palisade Manufacturing Co., Yonkers, N. Y.

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RUSSELL S. FOWLER, M.D.

Dr. Fowler, although still associated with his father, Dr. George R. Fowler, has opened an office at 388 Lafayette avenue. He holds the position of Chief of Clinic in the Brooklyn Hospital Dispensary, and Instructor in Surgery at the New York Polyclinic and Post-Graduate School and Hospital.

♦♦♦

AN IDEAL METER INSPECTOR.

A patient applied recently at the Eye and Ear Hospital for treatment, complaining that he could not see in dark places. When his history was taken, he was asked what his occupation was. He replied, "An inspector of gas-meters."

Another patient, whose duties required him to serve as a look-out on a vessel, was color-blind, and unable to see a large vessel until it was within five hundred feet.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.

ANATOMY, DESCRIPTIVE AND SURGICAL. By Henry Gray, F.R.S., Lecturer on Anatomy at St. George's Hospital, London. New and thoroughly revised American edition, much enlarged in text and in engravings, both colored and black. In one imperial octavo volume of 1239 pages, with 772 large and elaborate engravings on wood. Price of edition with illustrations in colors: Cloth, \$7.00; leather, \$8.00. Price of edition with illustrations in black: Cloth, \$6.00; leather, \$7.00. Lea Brothers & Co., publishers, Philadelphia and New York, 1896.

Gray's Anatomy, in spite of the efforts which have been made from time to time to displace it, still holds first place in the esteem of both teachers and students as a text-book of the science of which it treats. The "text-book" occupies a field peculiarly its own. It must present the latest scientifically attained facts, without discussing disputed theories. Its descriptions must be simple and concise, yet elaborate enough to introduce the advanced student to every avenue of investigation. As science advances constant revision is required. The successful invasion of the cranial and abdominal cavities made possible by aseptic surgical methods has, in these latter days, stimulated the anatomical study of these regions. To meet the demands of students for more exact knowledge numerous text-books have made their appearance, disputing the territory so long almost exclusively occupied by "Gray." In self-defense, therefore, a revised edition was issued in 1893. This, it must be confessed, was a disappointment to its friends. That it retained its place as well as it did is to be explained partly by tradition and partly by the continued superiority of its descriptions in unassailed departments.

We have now before us a new American edition of the thirteenth English edition, published by Lea Brothers & Co. of Philadelphia, in this year, 1896. From the publishers' announcement we quote the following claims: "Every page has received most careful scrutiny, the sections on the Brain, the Teeth, and the Abdominal Viscera, exclusive of the Genito-Urinary Tract, have been rewritten, and the subjects of Histology and Development remodeled, the new matter increasing the work by over 100 pages. The * * * series of illustrations * * * has been enriched in this edition by no less than 135 additional engravings."

The section on the Brain is from the pen of Dr. Gallaudet of the Medical Department of Columbia College, New York City. It is entirely rewritten.

No one better could have been selected to present this complicated subject to the student mind than this distinguished teacher and demonstrator of Practical Anatomy. His descriptions are scientific, his method is logical, his style is simple, and his illustrations are admirably selected.

The section on the Abdomen, including the Stomach, Intestinal Tract, Liver, Pancreas, and Spleen, has been to a great extent rewritten by Dr. Brockway, also of Columbia College, who has executed his task equally as well as his collaborator above named. The article is profusely illustrated. Especially gratifying is the elaborate description of the peritoneum, a subject which, to make reasonably clear to the student, has, heretofore, taxed to the utmost the resources of the teacher.

Every department of the work bears more or less evidence of revision, but none other than the above sections can be said to have been rewritten, except that part of the section on the teeth which treats of their development. Throughout, redundant phrases have been eliminated, descriptions have been rendered more exact, and in some instances fuller, by the addition of new matter. and for many of the illustrations superior ones have been substituted. Technical names have been abundantly supplied in parentheses, by no means an unimportant addition to the text.

In the departments of Histology and Embryology, especially the latter, much new matter has been introduced, descriptions being brought into line with recent investigation. This has been the work of Professor J. Playfair McMurrick.

Few changes have been made in the descriptions of bones other than such general revision as has been already referred to. We note a change in the terms of relation in the case of the bicipital ridges of the humerus, from "anterior" and "posterior" to "external" and "internal," but see little if any advantage in the change. It would have been better to have spoken of them as *anterior and external* and *posterior and internal*. We fail also to see any improvement in denominating the curved lines upon the dorsum of the ilium "gluteal" lines. While the description of the body of the pubes has undergone considerable revision, Fig. 207 still has printed upon the horizontal ramus the words, "Body of the pubes." This is an unfortunate error, for the reason that some anatomists do describe this portion of the pubes as its body.

Inasmuch as the vertebra is the type of the whole skeleton, it is to be regretted that these bones are not more scientifically described. It has been our practice to discuss them from the morphologic standpoint, the only rational method of teaching anatomy anyway. The adoption of this method is the crowning virtue of Dr. Gallaudet's and Dr. Brockway's contributions to this edition of "Gray."

There are few changes under the head of Articulations demanding special mention. Attention is called to the frequent perforated condition of the interarticular fibro-cartilage of the temporo-maxillary joint, but the author fails to add that when this occurs the synovial cavities on each side of it communicate through the perforation.

The movements of the ribs are much more carefully and accurately described, as is also the sacro-iliac synchondrosis.

A curious error (Edition of 1893, page 355), which declared the supinator longus to be a pronator of the forearm, has been corrected.

Under "muscles and fasciæ," the misstatement regarding the influence

of the quadratus lumborum upon respiration has been corrected: it being undoubtedly auxiliary to *inspiration* and not expiration, as formerly stated. No mention is made of the much more practical fact, however, that the psoas magnus and iliacus muscles are, in certain portions of the thigh, *internal* and not external rotators. (See Browning in *Annals of Surgery*, January, 1894.)

It is also a very careless omission not to have stated that the glands of Bartholin are frequently, if not in the majority of cases, situated beneath (i. e., distal to) both layers of the triangular ligament.

What has been said of revision generally is especially true of the origin and distribution of the cranial nerves. A typographic error on page 811 should be noted by the student, where the deep origin of the seventh nerve is spoken of as being external to the nucleus of the sixth *ventricle*. For "ventricle" read "nerve."

In the remaining portions of the book some minor errors have been corrected, but the revision has not been of a character extensive enough to call for any special comment, except that it is in the line of improvement.

The style of printing and binding remains the same as in the former edition, and the price has not been advanced.

Altogether, by this revision Gray's Anatomy has been made to deserve the reputation which, worthily or otherwise, it has so long enjoyed of being the leading text-book of its kind printed in the English language.

WILLIAM W. BROWNING.

A SYSTEM OF SURGERY. By American Authors. Edited by Frederic S. Dennis, M.D., Professor of the Principles and Practice of Surgery, Bellevue Hospital Medical College, New York, etc.; assisted by John S. Billings, M.D., LL.D., D.C.L., Deputy Surgeon-General, U. S. A. Complete in four imperial octavo volumes, containing 3652 pages, with index, 1585 engravings and 45 full-page plates in black and colors. Volume IV., 970 pages, 441 engravings, and 23 plates. Price, per volume: \$6.00 in cloth; \$7.00 in leather; \$8.50 in half Morocco, gilt back and top. For sale by subscription. Circular free to any address on application to the publishers, Lea Brothers & Co., Philadelphia.

This volume completes the "System." Its completion in a little more than a year is a noteworthy feature. Although in this short time surgery has made advances, still not to such an extent as to make the teachings of the first volume obsolete. This statement cannot be made of "Systems" which drag along for years before they reach completion.

Among the leading articles in Volume IV. are the following: Surgery of the Stomach and Intestines, by Dr. M. H. Richardson of Harvard, in which the use of the Murphy bottles and Senn's plates are fully described. Dr. McBurney contributes the article on Appendicitis. The great experience of its author makes this article one of exceptional value. Dr. Lusk writes on Symphysiotomy; Dr. Dennis on Tumors; Dr. Bull on Hernia; Dr. Pilcher on the Surgery of the Alimentary Canal; Dr. Abbe on Surgery of the Liver;

Dr. Polk on Diseases of the Uterus ; Dr. J. T. Johnson on Surgery of the Ovaries and Tubes ; Dr. Coe on Minor Gynecological Surgery ; Dr. Weir on Surgery of the Thyroid Gland ; and Dr. R. Matas on Surgical Peculiarities of the Negro.

MINOR SURGERY AND BANDAGING. By Henry R. Wharton, M.D., Demonstrator of Surgery in the University of Pennsylvania. New (3d) edition. In one 12mo. volume of 594 pages, with 475 engravings, many being photographic. Cloth, \$3. Philadelphia : Lea Brothers & Co., 1896.

Besides having been carefully revised, this edition of Wharton's well-known manual contains much new material on the subjects of Excision of the Joints, and Operations upon the Nerves and Tendons. This has been added to assist teachers and students in medical colleges in their operative work on the cadaver.

We have, in noticing previous additions, referred to the admirable illustrations, in the production of which neither pains nor expense seem to have been spared. We know of no book which more thoroughly or more satisfactorily covers the ground of Minor Surgery and Bandaging.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS. By Ernest Besnier and others. Philadelphia : W. B. Saunders. To be published in twelve parts. Price, \$3 a part. Part IV, 1896.

We have already noticed Parts I, II, and III of this most admirable Atlas. Part IV contains the following plates : Mycosis Fungoides ; Psoriasis ; and Tubercular Leprosy of the Face. The explanatory text accompanying these plates is full and satisfactory.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By Roberts Bartholow, M.A., M.D., LL.D., Professor Emeritus of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, etc. Ninth edition, revised and enlarged. New York : D. Appleton & Co., 1896, Pp. 866. Price, \$5.00.

The enlargement referred to in the preface consists in the addition of forty-five pages, which represents modifications made necessary by the rapid progress of pharmacology since 1893, when the eighth edition appeared.

Whatever may be thought of the wisdom of preparing and placing on the market so many synthetical remedies as manufacturers have been and still are doing, this fact must be recognized, and to keep informed on those that are of value, for many are, such a handling of the subject as is represented in Bartholow's treatise is essential. We have already expressed our opinion on this book and see no reason to change it. The ninth edition is up-to-date in all respects.

A MANUAL OF VENEREAL DISEASES. By Jas. R. Hayden, M.D., Chief of Venereal Clinic of the College of Physicians and Surgeons, (Columbia University) New York, etc. With 47 illustrations. Lea Brothers & Co., 1896. Pp. 267.

This little book of 250 pages fills admirably the purpose for which it was intended, *viz.*, as a student's compend of venereal diseases. The statements are briefly and clearly expressed, and theoretical considerations are excluded as much as possible.

The book follows in the general line of arrangement, and particularly in the matter of treatment, the voluminous work of Dr. R. W. Taylor, with whom the author has been associated, and although intended mainly for students, the practitioner will be able to find some useful therapeutic points, which, owing to the condensation of the subject-matter, are quickly and easily found.

HENRY H. MORTON.

THE TONIC TREATMENT OF SYPHILIS. By E. D. Keyes, A.M., M.D., late Professor of Dermatology, Syphilology, and Genito-Urinary Surgery in the Bellevue Hospital Medical College, etc. Revised edition. New York: D. Appleton & Co., 1896. Pp. 78. Price, \$1.00.

The "Tonic Treatment of Syphilis," by E. D. Keyes, published in 1877, is a book which is so well known that it scarcely requires mention. The added experience of twenty years has more than ever confirmed the author's view that mercury in small doses increases the number of red blood-corpuscles, and for that reason acts as a tonic in syphilis, in addition to its specific action in destroying the virus upon which the disease depends. In the last edition (Appleton, 1896) the only new material introduced is a description of the method of using mercury by inunction as practised at the Hot Springs of Arkansas, and a short section describing the method, indications, and advantages of using mercury by subcutaneous injection.

HENRY H. MORTON.

KEIL'S MEDICAL, PHARMACEUTICAL, AND DENTAL REGISTER. DIRECTORY AND INTELLIGENCER for Pennsylvania, New York, New Jersey, Maryland, Delaware, and District of Columbia. Fourth edition. George Keil, Editor. Philadelphia: Burk and McFetridge Co., 1896. Pp. 607.

We have frequent occasion to consult this directory and find it very accurate. In addition to the names and addresses of physicians, pharmacists, and dentists, it contains valuable information with regard to colleges, hospitals, asylums, and societies, as also the registers of the Medical Corps of the U. S. Army and Navy. It is a veritable *multum in parvo*.

TRANSACTIONS OF THE STATE MEDICAL SOCIETY OF WISCONSIN, for the year 1896. Madison, Wis.: Tracy, Gibbs & Co., 1896. Pp. 593.

This volume contains 87 pages, almost all of which treat of hygienic subjects. There is hardly a phase of hygiene which is not represented either in the pages or discussions. The Wisconsin State Society is evidently a live organization, recognizing that the true function of the physician is to prevent rather than to cure.



GARDNER Q. COLTON OF NEW YORK.

(ADMINISTERED NITROUS OXIDE GAS, AS A SURGICAL ANÆSTHETIC, TO
DR. HORACE WELLS IN HARTFORD, CONN., DECEMBER 11, 1844.)

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ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

A PRACTICAL DEMONSTRATION OF THE RÖNTGEN RAYS
WITH AN EXHIBITION OF SHADOWGRAPHS AND
APPARATUS.

BY WM. STUBENBORD, M.D.,
of New York.

Read before the Brooklyn Medical Society on June 19, 1896, and published by request.

The discovery by William Konrad Röntgen of the rays which bear his name is one of the greatest discoveries of the age and of universal interest. We should be thankful it was the work of so great and pure a scientist as Röntgen, and that he gave it to the world without price. In his clear, concise, masterly paper, read before the Physico-Medical Society of Würzburg, he explained in true scholarly style his accidental finding of the peculiar rays which cannot be diverted, but will sooner or later penetrate all objects.

Seven months have passed since that paper was read, and workers in Europe and America have made great advancement in developing and utilizing the theory: so great that what was new three months ago is old now. Of the possibilities of the rays in science there is no limit, but at the present time, of all



FIG. I.

places in which they have proven to be of the greatest utility, medicine occupies the first. Hence, it is greatly to be regretted that many students have given up the work because they were unable to see the pathological conditions of different organs. I have devoted three months' time to experimenting with them,

and have secured such results—probably the first faint streaks of morning light—as lead me to believe that before long pathologic conditions of organs can be seen and described. At present we can rely upon them to detect deformities in bones and the bony pelvis; we can note the growth of bones and malacosteon condi-



FIG. 2.

tions so important to the obstetrician; we can clearly see the shoulder-joint, the ribs, the vertebræ, the union of the pubes, the hip-joint, and the curvatures of the spine. We can describe fractures of bones and readily distinguish them from dislocations, determine how to set them, and even watch their reunion without

removing the splints and bandages. We can watch the absorption of a bone and readily find imbedded foreign substances. And more. We can detect the presence of pus, watch the heart beating, see the form of the liver, the lungs, the kidneys, and the spleen. I have seen with the fluoroscope the fetus in utero at the seventh month.



FIG. 3.

My object to-night is to show methods of doing work and the apparatus used. I trust I shall succeed in demonstrating that they are not a scientific plaything, but of great value to the physician and surgeon, and that we are no longer confined to photographing the hands—all parts of the body can be just as successfully taken.

I will first show results. [The pictures below were thrown upon a screen in full view of the audience by a lantern managed by Dr. Hunt, and are from photographs made by Dr. Stubenbord.]

Fig. 1 is the hand of an adult; notice the clearness of the



FIG. 4.

epiphyses. Fig. 2 is the hand of a child showing a fracture in the radius, united, and Fig. 3 is that of an adult showing fresh fracture in radius and ulna. The accident occurred in a bicycle race, and the photograph was taken just before setting.

Fig. 4 shows a foot and leg. The shoe is on the foot and a splint on the leg. Notice how slight obstruction to the rays the leather and the wood seem to have offered. The tibia was diseased, and the upper anterior part had to be removed. The light



FIG. 5.

spot on the bone marks the place where the removal was made.

Fig. 5 was a case of hip-disease in a child five years of age. The most careful diagnosis pointed toward rheumatism, but treatment did no good. The rays, however, showed that the head

and neck of the femur were being absorbed. The patient was treated accordingly, and is steadily improving.

Fig. 6 shows a bullet imbedded in the tibia. The patient was shot in the thigh, and the bullet passing downward lodged in the center of the bone. Dr. Bishop of the Flower Hospital removed it.

Fig. 7 was a case of curvature of the spine.



FIG. 6.

Fig. 8 shows a trepanned skull. The patient—a boy—had sustained a compound fracture, and the light part of the picture shows the portion trepanned.

Fig. 9 shows a knee in normal state.

Figs. 10a-10e show an entire skeleton in parts except the hands. This I consider to be the masterpiece of this exhibition. I have

never seen any other photograph of the pelvis nor heard of one, taken by the Röntgen rays. This is the skeleton of a living



FIG. 7.

woman, and was taken with her clothing on, as is shown by the spangles and buttons on her dress and the hair-pin in her hair.

And here I would say that all these views are my own work in every respect and have not been retouched.

I think I can make this subject a little more interesting by doing a little work right here. Dr. Winter has a patient present who has some foreign substance imbedded in his head. [Dr. Stubenbord then proceeded to photograph the part affected. After an exposure of thirty minutes the plate was sent to the dark-



FIG. 8.

room, and within ten minutes after was exhibited to the audience. This picture, Fig. 11, shows a bullet imbedded in the orbital canal.]

And now in regard to the apparatus and the method of handling it. I have nothing new in the line of instruments to show. What is required are Crookes' tubes, a Ruhmkorff coil or a static machine, a fluoroscope, plate-holders, sensitized plates, and other photographic apparatus.

First as to the coil or the static machine. A good fluorescence in the tube can be obtained from the Ruhmkorff coil, which gives a four to ten-inch spark, and the power used can be the alternating street current through a converter, the direct street current, or a storage battery. But I prefer a static machine, and my most



FIG. 9.

satisfactory work has been done with that made by the Galvano-Faradic Co. The machine has an advantage over the coil, in that its use is not limited to this work, but is of great value in general practice as a therapeutic agent; also it produces rays somewhat different, in my mind, from those of the coil. In my

hands it has proved much the better apparatus, and is generally in working order. Although it is erratic, it is much less so than the coil. The expense of the machine is no objection, for it costs only about \$400, while a good coil is valued at from \$200 to



FIG. 10 *a*.

\$600. But, of course, this need not be considered by physicians, since all are wealthy. I place the tube within two or three feet of the poles of the static machine and connect it with the primary poles. Sometimes a tube that has worked well for a while on

the primary poles will refuse to work well longer; then I connect it with the induced current, and generally it then works again. On the primary current a tube with a moderately high vacuum is required.

Secondly, in regard to the tubes. There are a number of different kinds on the market. I prefer the reflecting, as it gives



FIG. 10 *b*.

the highest fluorescence on the screen. Tubes are decidedly cranky, and remind one of Moore's lines:

"O woman, in her hours of ease
Uncertain, coy, and hard to please."

When a good tube with a high vacuum has been used for some time, it will often be noticed that it requires a greater poten-

tial to get the proper fluorescence, and that the vacuum has become so high that the tube will not fluoresce; if then the tube be warmed gently by a spirit lamp, the particles of air which have taken refuge in the glass of the tube are liberated, the vacuum is reduced, and the fluorescence returns. The proper vacuum of a Crookes' tube is about one-millionth of an atmos-



FIG. 10 C.

phere. The Geisler tubes have a low vacuum of about one-thousandth of an atmosphere, and contain various gases. Great care must be exercised that the tubes be well cleaned, free from all particles of dust.

In photographing, the plates remain in the case covered. I use the Cramer Banner brand and the Carbutt X-ray. The best

current is the primary not the induced if you are using the static machine. The length of time required in exposure is growing less as we become better acquainted with the work. At first I required an hour and five minutes for a hand, now I take from thirty seconds to three minutes. I give to a shoulder from ten



FIG. 10 *d*.

to fifteen minutes, to a knee five minutes, to a thorax twenty to thirty minutes, and to a trunk thirty minutes.

One of the most important instruments in the work is the fluoroscope. Its use at present is confined to the direct study of the living organism, since every shadow in the photograph is

equally well revealed by it. In my own practice I use it in preference to the photograph, for I get the same results without the work of developing and printing the picture. It is simply a box-



FIG. 10 *e*.

screen for the eyes to be used when looking toward the light through the object. My co-worker, Professor Henry W. Schimpf, has spent much time with it, and has secured some excellent

results. The main thing about it is the experience required to see all that it reveals. The more one uses it, the more he sees



FIG. II.

with it, and the more accurately does he see.

My time is up; I thank you for your attention.

♦♦♦

John Milton Holt, M.D., has removed his office to 65 South Tenth street.

♦♦♦

Honorable Willard Bartlett, Justice of the Supreme Court, has been appointed Professor of Medical Jurisprudence in Long Island College Hospital to fill the vacancy caused by the death of Justice C. E. Pratt.

A CASE OF GUNSHOT-WOUND OF THE HEAD IN WHICH
THE BULLET WAS LOCATED BY MEANS OF THE
RÖNTGEN RAYS AND THE TELEPHONIC PROBE, AND
REMOVED BY OPERATION. RECOVERY.*

BY GEORGE R. FOWLER, M.D.,

Brooklyn, N. Y.,

Professor of Surgery in the New York Polyclinic; Surgeon to the Methodist Episcopal Hospital,
and to the Brooklyn Hospital.

The patient, a male student, nineteen years of age, was admitted to the Methodist Episcopal Hospital on September 14, 1896, with the following history:

Two days prior to admission he shot himself, with suicidal intent, in the right temple. He stated that he did not lose consciousness following the infliction of the injury, but immediately became totally blind. There was free bleeding from both nostrils, and subsequently some bloody expectoration. The weapon employed was a 32-calibre revolver.

Examination showed a bullet-wound about an inch behind the external angular process of the right frontal bone and somewhat below the level of the eyebrow. Both upper lids were swollen and discolored, and both the palpebral and ocular conjunctivæ were ecchymosed and infiltrated. The globes protruded slightly; there was ectropion of the left lower lid. The pupils were widely dilated; no perception of light. Pulse 60; temperature 99.2° F.; respiration 28. There was marked tenderness throughout the supraorbital region, and some headache complained of.

The bullet-wound was treated with a 1-20 carbolic solution, and the surroundings thoroughly cleansed, shaved, and disinfected with a 1-1000 corrosive sublimate solution. The eyelids were cleansed with boric-acid solution, and covered with compresses wetted with the same, dressings of sterile gauze applied, and the whole secured by bandaging.

Although it was evident from the symptoms that the bullet had not penetrated the cavity of the cranium, but, on the contrary, had traversed both orbits, at my request Dr. Kolle of this city, on October 13, 1896, made the accompanying skiagraph with

the view of assisting in definitely locating the missile to the end that, if found accessible, it might be removed and thus prevent future disturbances arising from its presence. The exposure was forty-two minutes, and the tube employed was the Thompson-Crooke. The skiagraph was taken as nearly as possible in the line of the supposed flight of the bullet, and the skiagraph shows



Reproduction of a skiagraphic print, showing a revolver bullet in the head which was removed by operation.

the missile lying apparently somewhat below the level of the left external angular process, and, judging from the clearness of its outline, according to Dr. Kollé, it was located not far from the surface.

It was not expected that the precise location of the bullet, so far as its depth from the surface was concerned, would be determined by the shadow-picture, but it was expected that this

would materially assist in the search for it and its removal. The fact that total blindness and hemorrhage into both orbits took place, as well as the existence of intraorbital hemorrhage, were suggestive of the course taken by the ball. As aids to the diagnosis already made, therefore, it was decided to call in the aid of the Röntgen-rays, and of the telephonic bullet-probe, in addition.

On October 17th the patient was etherized, and search made for the ball. The pointed telephonic probe, which was blunted so that it could not penetrate a vessel, and yet be sufficiently wedge-shaped to penetrate muscular and fascial structures, was passed through a small incision in the skin made as nearly as possible at a point opposite to the supposed location of the ball. A systematic exploration of the zygomatic and adjoining portion of the temporal fossa was then made in all available directions. The results of these excursions with the telephonic probe in the soft parts of the neighborhood were negative. The instrument was then introduced at the outer canthus, and the external and inferior aspects of the globe also explored, but with no result.

With the view of gaining better access to the parts behind the zygoma and malar bone, an osteo-plastic resection of these was made through a curved incision with its convexity directed backward. The parts thus brought within reach were now submitted to a most searching investigation with the probe, but nothing was found. The margin of the outer wall of the orbit was now chiseled away until free access to that cavity was obtained, when the probe was made to explore all portions of the orbit outside of the globe. This extension of the exploratory operative procedure, however, was without result.

If the results of the Röntgen-ray picture were not to be doubted, and the symptom of double blindness was not misleading, in the absence of all evidences of intracranial injury there was but one other place remaining to be subjected to investigation, and that was the globe itself. I therefore carefully introduced the telephonic probe through the sclerotic at the site of the gap left by chiseling away the orbital margin, when the presence of the bullet as it came into contact with the end of the probe was at once announced by the characteristic "click" in the telephone receiver. A half-inch incision was then made through the sclerotic coat at the site of the puncture made by the probe, and the bullet, bearing marks of its passage through the bony parts, removed.

The flap of bone and soft parts were replaced and sutured.

Rapid healing followed, and the patient was discharged from the hospital at the end of a fortnight.

This is believed to be the pioneer-case of location of a bullet in the head by means of the Röntgen-rays, in which an operation was undertaken and successfully carried out upon the basis of the findings of the X-ray picture.

— •••

ALOPECIA AREATA AS A RESULT OF EXPOSURE TO THE RÖNTGEN RAYS.

BY FREDERICK S. KOLLE, M.D.

Much has been written of the newly discovered electro-physical phenomena, the so-called X-rays, and considerable progress has been made by the many hundreds, perhaps thousands, of scientific workers. The early, long-exposed radiograms of small metallic objects and indistinct hand-anatomy have, within one year, been replaced by the almost instantaneous results, showing the anatomy of the entire human frame, to even the beating of that organ which in man had never before been observed, namely, the heart.

And yet, in all our experiments and work in this direction, we have watched the vacuum-tubes with awe and respect, wondering and pondering over the results obtained.

It seems that, wonderful and valuable as the discovery has proven itself, it has its faults; and time alone will bring us in touch with the examples of its mysterious effects.

The accompanying illustration is that of a boy, J. K., twelve to thirteen years of age, who, through my earnest wish to his parents, was permitted to allow me to make a radiogram of his entire body, assuring his parents that no harm would come to him. (The same patient had sat for some of the pictures exhibited by me at the National Electrical Exhibition.) He came to my laboratory during the week of October 19th to 24th, and on October 21st I made a radiogram of his skull. The exposure was one of forty minutes, made in the usual way, with a Thompson double-focus or standard vacuum-tube. The distance between the tube and skull was a little over eighteen inches, as I passed an eighteen-inch desk-rule between the tube and head at the time, with perfect ease.

As I knew the time of sitting would be a little long for him, I advised him to close his eyes and so overcome the monotony of watching the minutes pass by on a clock hanging directly in front of him. He did so. I sat near by, watching the tube and his head to note any movement, and thought it rather peculiar that the boy did not even open his eyes once during the entire time of exposure. The current was turned off when the time had



elapsed, and I spoke to him. He paid no attention, and not until gently tapping him on the head did he awake, surprised to find the whole time had already flown by, stating that he had slept all of the time.

This was the only radiogram made that day, and as I obtained such a good result, it was not necessary to make another of the skull. The radiogram of his body was completed in the four

sections necessary, and my little friend disappeared until on the 9th day of November, when he came into my office and showed me his head, and, to my great displeasure, I saw a large area of hair missing upon that side of the head exposed to the vacuum-tube, as shown by the photograph I immediately made of him.

There had been no premonitory symptoms of itching or inflammation: all the patient knew was that on the night previous the hair had suddenly fallen out.

The depilated area corresponded to the side exposed to the tube, and as there has been another such case reported (in Chicago), I came to the conclusion at once that this was a similar case—that the depilatory cause was none other than this unknown force emanating from a charged vacuum-tube.

A peculiar fact to be noted is that the hair all fell out at once. The integument, or scalp, appeared bald and somewhat elevated, and slightly edematous. There was no redness, sensibility was not impaired, the patch was regular, and scaling was absent. The area was perfectly bald; not even lanugo-hairs were to be seen. Unfortunately, I failed to make a microscopical examination of the hair. His hair was cut, and stimulating and hygienic treatment was at once commenced. The edema has entirely disappeared, and fine, downy hairs are beginning to show themselves, and I believe the hair will be replaced in part, if not all.

It seems to me that it would be well to treat the area exposed to the rays at once after exposure, at least hygienically, with the hope of stimulating the nerve or follicle to nourish its individual hair, whatever the cause of the alopecia may be. The head should be washed once a week for a time and thoroughly dried, and daily a non-irritating oil should be used containing tincture of *nux vomica*, 3 ss or 3 i to 5 ii, or tincture of *cantharides*, 3 i to 5 ii, adding a little *ol. lavendula* to hide the oily odor. Soap should by all means be avoided unless the hair is thoroughly dried thereafter and the above hair-oil used.

Oil of cade or boracic acid may be used advantageously. I have not read the report of the case recorded in Chicago, but believe that rubbing a little vaselin or lanolin well into the scalp on the side of the head exposed to the rays would protect the hair-roots more or less; anyway, it is worth trying.

I may here mention that, although I have made over thirty exposures of the human head, ranging from thirty-two to sixty minutes, I have failed to find any such symptoms as in this case: in fact, in recent radiograms made of the head of an adult

patient in the Methodist Episcopal Hospital, where it was necessary to make two exposures, each of forty-two minutes' duration, the tube being placed about ten inches from the head, no alopecia resulted.

What the actual pathological condition is in this case, I am unable to say, but beg to record this case, to forewarn, as it were, the many enthusiasts working with this, the most wonderful and valuable aid to surgery, so to save them the displeasure this case has caused me, if possible.

216 Seventeenth Street.



A CASE OF INCOMPLETE EXTERNAL DISLOCATION OF THE ELBOW-JOINT, IN WHICH SKIAGRAPHY FAILED TO REVEAL THE LESION.

BY GEORGE R. FOWLER, M.D.,

Professor of Surgery in the New York Polyclinic, Surgeon to the Methodist Episcopal Hospital, and to the Brooklyn Hospital.

Presented before the Brooklyn Surgical Society, November 5, 1896.

E. B., aged seven years, was seized by a mischievous boy by the left arm and forcibly thrown from a hammock to the ground on September 4, 1896. She was seen at once by a local practitioner, who placed the arm in a felt splint, bandaged it, and sent the child in from the country to the family physician in this city, Dr. Brundage, who asked me to see her. Inasmuch as the boy who inflicted the injury was a trespasser, and there was a likelihood of medico-legal complications arising in the case, it was decided to obtain a skiagraph of the conditions existing, with the bandages and splint still in position. This was accordingly done, but unfortunately there was a failure to state the requirements of the case from the diagnostic standpoint.

Upon receiving the prints made from the very excellent negatives taken by Dr. Stubenbord, I was at once struck by the fact that, while fractures of the bony parts, entering into the joint, as well as antero-posterior dislocations could be excluded by the appearances preserved in the skiagraph, another class of injuries, namely, lateral dislocations, could not thus be eliminated from

the case and required further investigation. From the fact that the skiagraph was taken in a direction parallel with the transverse line of the joint, and not at right angles to the same, the presence of a lateral displacement could not possibly be suggested. The child was suffering considerable pain, and I could scarcely justify myself in further delay in the case by having another negative taken from the direction of the posterior surface of the arm and forearm.

A study of the accompanying reproductions of the prints from



FIG. 1. The injured arm showing general swelling, and the separation of the articular surfaces by effusion.

Dr. Stubenbord's negatives will show, when the effusion which exists in the joint itself is taken into account, as well as the swelling of the extra-articular soft parts, and the additional fact that the sound arm is somewhat more flexed than the injured one, that no essential differences in the relations of the joint-surfaces to each other exist. Certainly no such deviations from the normal can be detected as were found when the bandages were removed and the parts examined with the patient under chloroform. This was done upon the following day at the Brooklyn Hospital, where the

patient was taken for the purpose of this examination. The following conditions were found:

The olecranon was unduly prominent, and the distance between it and the internal condyle was increased; the line of the triceps-tendon was deviated in an outward direction. The width of the elbow seemed increased as compared with its fellow. The



FIG. 2. The uninjured arm skiagraphed for purposes of comparison.

forearm was pronated and found to be movable upon the arm, without forcing it, to about 160° . By the exercise of force it could be extended almost, but not quite, to the usual limit. The flexion was limited to about 75° . The axis of the forearm was external to and parallel with that of the arm, the normal abduction being destroyed by a substitution therefor of a position

of adduction. In other words, that normal external deviation of the axis of the forearm from the line of the arm, and which imparts to the arm its so-called carrying-function, was substituted by a parallelism of these axes. The prominence of the internal condyle was increased, and the skin drawn tightly over the prominence. With the elbow flexed, the head of the radius could be felt in front of the external condyle; in extension it passed to the inferior surface of the condyle.

The first attempt at reduction was made with the arm in forced extension. Strong traction was made upon the forearm while pressure was made upon the head of the radius, and counter-pressure made upon the inner side of the humerus. This attempt failed. The second attempt consisted in making a movement of outward lateral flexion (restoration of the normal deviation of the axes of the arm and forearm), then slightly flexing the arm, at the same time making forcible pressure with the left thumb against the radius and counter-pressure against the internal condyle with the finger-tips of the same hand. The movement of reduction was completed by extending the forearm, when the parts were felt to promptly slip into place. The normal anatomical relations of the olecranon to the condyles, and the head of the radius to the external condyle, as well as the normal line of the triceps-tendon, were at once restored.

In order to verify the diagnosis, the order of movements employed in reduction was reversed and the dislocations reproduced, after which reduction was again effected, as before.

I regret exceedingly that a failure to obtain a proper skiagraph of this rare form of dislocation occurred in this case. This is to be attributed altogether to the absence of any definite instructions on my part in the hurried note which I dispatched with the patient to Dr. Stubenbord, and hence the skiagraph was taken in a position to show the ordinary forms of injury to the elbow-joint when, as a matter of fact, it should have been taken with all the possible deviations from the normal in mind.

The case is presented with the view of calling attention to one of the sources of want of confidence in skiagraphy and its correction, as well as for the purpose of placing upon record an instance of an exceedingly rare form of injury to the elbow-joint.

PENIS DIVIDED BY SILK LIGATURE.

BY JAMES C. KENNEDY, M.D.,

Visiting Surgeon to St. Mary's and St. Catherine's Hospital.

A boy aged fourteen, entered St. Catherine's Hospital with the following history: Being troubled with nocturnal incontinence of urine, for which he was frequently reprimanded, he determined to use extreme and radical measures whereby, at least his night-robe would not be soiled.

He carefully applied over the urethra and around the penis, midway between the glans penis and the scrotum, rather nearer the scrotum, a double ligature of medium-sized silk, which was drawn sufficiently tight to prevent the escape of urine. On the following morning he was astonished to find the organ twice its natural size, and his carefully applied ligatures out of sight. Disappointed and mortified he determined at all hazards to keep his secret. He suffered all the tortures of retention until the ligatures cut their way through the urethra, when an immediate mitigation of the symptoms caused by retention took place.

The accompanying symptoms of a violent inflammation soon compelled him to take to his bed, and a physician to be sent for.

Dr. M. found the boy in such bad shape that he advised his immediate removal to the Hospital, where the following conditions were noted: Urethra cut through; left corpus cavernosum severed; right corpus cavernosum almost separated, yet uniting the extremities by the slenderest thread. It was noticed that the glans penis and its accompanying extremity maintained a comparatively healthy color, and it was surmised that in this slender thread of union was inclosed the artery of the corpus cavernosum, the branches from the dorsal artery of the penis which perforate the fibrous capsule must of necessity have been severed. Wet dressings were applied, and the penis supported for several days until cicatrization was complete. Then under an anesthetic, a sound was passed into the bladder, the edges of the stumps freshened up, the extremities of the urethra dissected out, and a circular piece taken from each, and the ends carefully sutured with the finest silk. The extremities of the

left corpus cavernosum brought into opposition, the extremities of the right up to the small film, which held them together, this being left intact to insure nutrition. Silk sutures were passed through the edges of the separated corpora cavernosa, crossed and brought out through the integument; these were continued about the organ until all was closed, except the slender attach-



ment which united the extremities originally, and which contained the artery of the corpus cavernosum.

Rubber protective, covered by iodoform-gauze, completed the dressing. A soft No. 7 female catheter was left in the bladder for several days. The dressing was not disturbed for a week,

when complete union was found to have taken place; the sutures were then removed, the fine silk sutures in the urethra remaining; the dressings were renewed every two days for a week. A small urethral fistula at the point left for nutrition was found.

Three weeks later this channel of union was cut away, the edges denuded, and flaps of skin from either side raised and



brought together, completely covering the fistula which united in due time, leaving the boy with a respectable and useful organ. The minutest pin-point opening, through which an occasional drop of urine finds its way, remaining; this is being treated at present writing, and shows every sign of rapid closure. No evi-

dence of stricture is as yet noticed, a No. 17 French steel sound passing smoothly into the bladder.

The point worthy of notice here was the fortunate preservation of a single channel of nutrition, which was sufficient to sustain the vitality of the parts until the art of surgery came to the rescue.
762 Willoughby avenue.

...

REPORT OF ONE HUNDRED CONSECUTIVE GYNECOLOGICAL OPERATIONS, FROM MARCH 1, 1895, TO MARCH 1, 1896.

BY JOHN O. POLAK, M.D.,

Attending Surgeon, Department for Women, Brooklyn Throat, and Eastern District Hospitals.

(Concluded from page 708.)

PLASTICS AND MINOR CASES.

A tabular statement of operations not necessitating the opening of the abdominal cavity:

DIAGNOSIS.	NO. OF CASES.	OPERATION.	IMMEDIATE RESULT.	REMOTE RESULT.
Gonorrheal endometritis.	4	Dilatation, Curettage and Packing.	Further invasion arrested in 3 cases. Extension to tubes in one.	In good health. Dysmenorrhea. Pain in both iliac regions.
Chronic catarrhal endometritis.	15	Dilatation, Curettage and Packing.	11 recoveries. No improvement in.	Health generally improved. No recent reports obtained.
Septic endometritis (incomplete miscarriage).	4	Curettage, Irrigation and Drainage.	Prompt recovery.	Have remained well to date.
Laceration of the cervix uteri.	21	Trachelorrhaphy (after Emmet) in 20 cases. Wedge-shaped amputation once.	Primary union silk-worm gut as suture material. Suppuration catgut for sutures.	Relief of Symptoms. Secondary operation.
Incomplete laceration of the pelvic floor.	16	Emmet's operation with interrupted silkworm gut sutures 14 times. Hegar's kolpoperineoplasty, with continuous buried catgut twice.	Primary union with good muscular body. do.	One death 15 days after operation, from chr. diffuse nephritis. Other cases have all reported for examination. Satisfactory result.
Cystocele	3	Anterior colporrhaphy (after Emmet) in 6. Colporrhaphy (after Watkins) twice.	Primary union.	Result to date good.
Annular stricture of the Vagina.	1	Multiple incision, with forcible dilatation.	Patient left hospital feeling well.	Partial recurrence, with constant backache.
Recto-vaginal fistula.	2	Denudation and suture.	Primary union, no leakage when discharged.	Patients have been lost track of since Jan., '96.
Hemorrhoids, with anal fissure.	6	Dilatation of the sphincter, clamp, and cauterization.	Painless convalescence.	No recurrence at date.
Diffuse pelvic Suppuration (cellulitis).	2	Vaginal incision and drainage.	Prompt recovery.	Both patients have remained well.

In the foregoing notes and table I have attempted to briefly summarize this series ; concisely stating the immediate and remote results of the various operative procedures on the female generative organs. Each patient has had pre-operative preparation, following a careful investigation of heart, lungs, and kidneys. The history of the writer's one fatal case is as follows : Mrs. G. S., æt. 34, married 12 years, 5 children. Youngest 2 years old. Suffered from profuse and painful menstruation recurring at irregular intervals, with constant sacral pain, frequent micturition, and a feeling of weight in the pelvis. Poorly nourished. Heart and lungs normal and urinary examination negative.

Physical examination showed an incomplete laceration of the pelvic floor with cystocele and rectocele, the uterus was enlarged and retroplaced and the cervix exhibited a stellate laceration with erosion. Both tubes were slightly thickened. October 1st, 1895, with patient under ether, the following operations were made, *i.e.*, curettement, trachelorrhaphy, anterior colporrhaphy, and perineorrhaphy. Time, 50 minutes. Convalescence was afebrile and not marked by anything abnormal save a diminished urinary secretion. Stitches removed on the tenth day, primary union.

October 13th and 14th : Patient sitting up.

October 15th : During a momentary absence of the nurse, patient made an attempt to go to the closet unaided and collapsed. Stimulants, etc., were of no avail and she died five minutes later.

Autopsy (Coroner's): Chronic diffuse nephritis, double salpingitis. Increase in the amount of cerebral fluid. No heart clot. Death from uremia and septic meningitis.

The writer has observed that after prolonged ether narcosis the urinary secretion is often markedly diminished, because of the increased arterial tension in the kidneys. To combat this suppression, nitroglycerin $\frac{1}{100}$ of a gr. repeated every 15 minutes until $\frac{1}{25}$ has been given, has afforded valuable diuresis. Reaction from shock was prompt in cases where nitroglycerin was used. A sterilized normal salt solution was employed for all uterine irrigation, as the writer has seen several cases of acute mercurial poisoning from the intra-uterine use of corrosive sublimate.

A traumatic trachelo-cystitis from frequent catheterization was a troublesome complication. Each patient had her o

catheter, and only glass instruments were employed. These were boiled before using and kept in a saturated solution of boric acid, yet, notwithstanding these precautions, vesical symptoms were frequently complained of. Salol, gr. x, t.i.d., with an occasional vesical irrigation with a solution of sodium salicylate, ʒj to the pint of boiled water, cured these cases promptly. Douches were not employed in the after-care of vaginal cases: 25 gr. iodotorm pencils were inserted every 24 hours, after the secretions had been removed with wipes of sterilized cotton.

A one one-hundredth of a gr. atropine sulphate administered three-quarters of an hour before etherization has prevented vomiting and excessive secretion of mucus during the narcosis: hence has been routine practice.

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PROGRESS IN MEDICINE.

OBSTETRICS.

BY CHARLES JEWETT, M.D., SC.D.

NEW RESULTS OF PALPATION OF THE SHOULDER.

Fabre (*L'Obstétrique*, May, '96) has studied the relation of the anterior shoulder to the changing positions of the fetus during pregnancy. He says first that it can be found with rare exceptions. In 139 patients examined with reference to this point he failed to recognize the shoulder in five only, and in these by reason of hydramnios or multiple fetation. One thing which aids in locating the shoulder is the fact that it is found at the level of the fetal heart.

By the situation of the anterior shoulder the examiner can determine the degree of engagement, of rotation, and of inclination of the head. Supposing, for example, that the head is normally flexed and is not laterally inclined on the trunk: the distance from the biparietal diameter to the top of the head is 5 cm.; from the biparietal diameter to the bisacromial diameter is (since no lateral inclination of the head is admitted) 8 cm. If it be found by mensuration with the calipers that the height of the shoulders above the symphysis is 13 cm., then the vertex lies at the level of the pelvic brim, and if the shoulder is 8 cm. above the pubic bone, the equator of the head is at the superior strait. Again, owing to torsion of the neck of the fetus the anterior shoulder lies on the same side of the mother with the occiput. In a left

anterior position, the shoulder is at the left of the median line and conversely.

F.'s observations have shown that at the end of the eighth month the fetus lies in posterior more frequently than in anterior position. During the ninth month the occiput gradually glides forward, toward one of the anterior quadrants of the pelvis. Fabre has demonstrated the fact that the head descends synclitically by finding the same distance between the center of the sagittal suture and the anterior shoulder during the labor as after the birth. In contracted pelves, on the other hand, the measurements have shown asynclitism.

THE PRONE POSITION FOR VERSION.

Mesinga (*Centralbl. f. Gyn.*, November 23, 1896) advocates the prone position for version. His reasons are that the operator has more room, and his arm being prone his sense of touch and muscular feeling is much more acute than in the supine position of the operating hand. The uterus is shortened and the os pressed into the pelvis; the vagina is shortened and more dilatable, and the introduction of the hand thereby facilitated; the os uteri is more easily passed. The patient lies at full length with a pillow below her thorax and her head turned to one side; the operator sits on a stool by the bedside. Such accidents as separation of the uterus from the vagina or embolism from the introduction of air into the womb are prevented. The operation is less painful; the less the opposition the less the force required, and the less the force the more delicate the sense of touch. Chloroform is not necessary. An injection of morphine may be given if desired. The perineum is under ocular inspection, though it cannot invariably be saved. M. has used this method for the past eight years with increasing satisfaction.



OPHTHALMOLOGY.

BY JAMES W. INGALLS, M.D.

TRAUMATIC NUCLEAR OPHTHALMOPLÉGIA.

Simon (*Beitrage zur Augenheilkunde*, July, 1896) gives the histories of fifteen cases of head injuries which were followed by paralysis of some of the eye-muscles and diplopia. It was decided in these selected cases that the lesion or hemorrhage was located in the nuclei of the nerves which were distributed to the affected

muscles. Fracture of the skull was not noted in any of the cases, in two instances only was the concussion severe enough to cause unconsciousness. Diagnosis of nuclear ophthalmoplegia can be established only by taking into account all of the accompanying symptoms. Orbital lesions must be excluded. Such a condition usually manifests itself within a few days by subconjunctival ecchymosis. Symptoms of fracture of the base are so evident they are not apt to be overlooked, prolonged loss of consciousness, hemorrhage from nose and ears, slow pulse, impaired hearing, and symptoms of lesions of other cranial nerves. In quite a number of the cases enumerated, the sixth nerve was the one affected. Since the nucleus of this nerve is located in the floor of the fourth ventricle, diabetic symptoms would naturally be expected. Although the quantity of urine was increased, yet repeated examinations failed to show the presence of sugar. By way of treatment, in a few of the cases, electricity and iodide of potash were used with good results. However, all the others, with one or two exceptions, made perfect recoveries in the course of a few weeks or months without any special treatment. [No mention is made of the use of prisms as a temporary relief for the very annoying diplopia.]

THE SIZE OF THE PHYSIOLOGICAL PUPIL.

Silberkuhl (*Archiv f. Ophthalmologie*, 1896, pp. 186-187) carried on an elaborate series of investigations in order to determine the size of the normal or physiological pupil. It was found that in an ordinary light the variation was from 2.4 mm. to 4.4 mm., according to the age. The diameter in young persons, up to fifteen or twenty years, is somewhat more than 4 mm., in older persons, over fifty years, almost 3 mm. In the years between twenty and fifty, the diameter is quite uniform, 3.6 to 3.1 mm. Between the different refractive conditions, emmetropia, myopia, and hypermetropia, in persons of the same age, there was no essential difference in the size of the pupil.

The pigmentation probably has no influence upon size of pupil.

GRANULAR CONJUNCTIVITIS.

Kalt (*Archives d'Ophthalmologie*, August, 1896), in cases of granular conjunctivitis uses a solution of permanganate of potash varying in strength from 1-3000 to 1-500, freely applied to the affected conjunctiva. Notes of a series of cases under this treatment show good results. Other measures, however, were not

neglected, brushing (*brossage*) and sulphate of copper being used. In some cases the permanganate solution was employed in connection with bichloride 1-10,000, or formal 1-2000.

TREATMENT OF HIGH DEGREES OF MYOPIA.

Ascher (*Beiträge zur Augenheilkunde*, July, 1896) advocates operative treatment of the higher grades of myopia, and says that the operation of discission of the lens for excessive myopia is a therapeutic measure of the first rank. He gives a *résumé* of the literature of between three hundred and four hundred cases. Those having the larger number of recorded operations were as follows: Pflüger 36, Sattler 68, Schweigger 28, Weber 24. Detachment of retina followed in five cases. Weber has operated since 1858, in all twenty-four operations, without any unfortunate results. After operation the condition remains stationary, but without operative treatment the higher grades of myopia are progressive.

RETINAL HEMORRHAGES OF MALARIAL ORIGIN.

Bassères (*Archives d'Ophthalmologie*, July, 1896) claims that hemorrhage of the retina is a more frequent complication of malaria than has been generally supposed. Especially is this true in localities where the affection assumes a severe type, and quickly produces a condition of extreme cachexia. In the cases under observation, absorption of hemorrhage took place in a comparatively short time, in one to four months, according to extent of hemorrhage. Extravasations in the macula region seemed to disappear more slowly than in any other part of the fundus. The theory is advanced that the lesion is due either to thrombi of parasitic origin (Lavarán), or to alterations in the blood itself, or to the weakening of the coats of the vessels through the irritating action of the malarial germs.

EXTRACTION OF IMMATURE CATARACT.

De Schweinitz (*Ophthalmic Record*, June, 1896) reports favorably upon the extraction of immature cataract, as advocated by Weeks at the Baltimore meeting of the Ophthalmological Section of the American Medical Association. Although Knapp, Weeks, and others employ simple extraction, as they would for a mature cataract, yet De Schweinitz prefers the combined method because of the diminished risk of prolapse of iris. He sums up by saying that he prefers to wait for maturity of the cataract, or for that time of life (about sixty) when the lens, even though immature in the ordinary sense of the term, will cleanly leave its capsule. However, he prefers the extraction of an immature cataract (combined section) to the performance of an operation for ripening.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society Building, 356 Bridge street, on Tuesday evening, October 22, 1896, at 8 30 o'clock.

The President, Dr. Geo. McNaughton, in the chair.

There were about seventy-five members present.

The minutes of the previous meeting were read and approved.

REPORT OF COUNCIL.

The Council reported favorably upon the following applications and recommended that they be elected to membership :

Dr. H. L. Gill, 279 Dean street, P. & S., 1894.

Dr. G. G. Thompson, 11 Lincoln place, L. I. C. H., 1896.

Dr. D. W. Meyer, 44 Clinton street, L. I. C. H., 1894.

Dr. E. N. Bradley-Byström, 147 Warren street, Univ. Paris, 1886.

APPLICATIONS FOR MEMBERSHIP.

The Secretary presented the following propositions :

*Dr. Edward W. Victor, 176 St. James place, Univ. N. Y., 1875 ; proposed by Dr. Jas P. Warbasse, Dr. Z. T. Emery.

Dr. Jno. Frederick Simpson, 450 Graham avenue, Bellv., 1895 ; proposed by Dr. N. L. North, Jr. ; Dr. J. H. Droge.

ELECTION OF MEMBERS.

The following, having been regularly proposed and favorably acted upon by Council, were declared by the President elected to membership :

Dr. Alfred Bell, P. & S., N. Y., 1895.

Dr. E. S. Mars, Mahony City, Col., 1896.

Dr. Ira Ayer, L. I. C. H.

Dr. Edward Hodges, L. I. C. H.

Dr. Walter Truslow, L. I. C. H., 1895.

Dr. George Essig, Bellv., 1893.

Dr. K. Rose Owen, Wom. Med. Coll., Baltimore, 1896.

The Secretary read letters of acceptance and acknowledgment from the following Honorary Members: Dr. Horatio R. Storer, Dr. William Pepper, and Dr. William H. Welch.

SCIENTIFIC BUSINESS.

Dr. Henry T. Hotchkiss read a paper on "The Practical Administration of Anesthetics."

Discussion by Drs. J. H. Hunt, J. H. H. Burge, Benj. Briggs, W. B. Chase, L. S. Pilcher, H. De Haven Cameron.

There being no further business, on motion the meeting adjourned.

D. MYERLE, M.D., Secretary.

BROOKLYN SOCIETY FOR NEUROLOGY.

At the regular meeting held Thursday, October 29, 1896, the President, Dr. C. F. Barber, in the chair, Dr. J. C. Shaw read a paper entitled Acute Spinal Paralysis.

ABSTRACT.

1st Case.—Woman, *æt.* 28, single. Previous health poor. In October, '84, she developed pain and cramps in the upper extremities and in a few days cramps followed by paralysis of the lower extremities. Upon examination there was *œdema* of the upper extremities, severe abdominal pain, and no Faradic response in the paralyzed muscles.

Case 2.—Male, *æt.* 37. Supposed to have had syphilis. For four weeks he had suffered from feeling of numbness in the lower extremity extending up to the ilium and paresis of hands and facial muscles, most marked in the right. He staggered on walking. There was paresis of hands. Tendon reflex absent on the right side, weak on the left. On the left side light contact was not noticed. Ten days after he developed hiccup, lasting for several days. Afterwards he suffered from pains in the bowels for ten days, pricking sensations in hands and feet. Sense of a constricting band on the left side of abdomen, complete paralysis of the extremities, and diminished tactile sensation. Patient became drowsy, with a pulse of 56. The paralysis of the extremities gradually improved, leaving the disturbances of sensation most marked on the left side and the facial paresis on the right. Complete recovery in three months.

Case 3.—Male, *æt.* 39, married. Previous health good. Four weeks before he suddenly developed severe lumbar pains and paralysis of the left lower extremity. The pain then extended down the back of the thigh. This gradually improved, leaving the leg useless. At first there was slight difficulty in urination.

When seen he dragged the left foot in walking. Marked loss of power in the leg muscles, especially in the anterior tibials. Loss of Faradic reaction.

Case 4.—Male, æt. 53, married. Uses alcohol moderately. Previous health good. Seven months ago he developed diplopia from slight paresis of the left third nerve. This improved very much. Two months before he noticed difficulty in using his hands, which commenced in the right.

He then suddenly developed loss of power in the lower extremities, and thickness of speech. In the arms there was loss of power to extend the arms backwards and to extend the fingers. In the lower extremities the loss was most marked in the extensors of the leg and glutei muscles. There was a double facial paralysis. He then developed difficulty in breathing for a few days. Faradic reaction was absent. The interest in these cases is found in the presence of symptoms not usually found in acute poliomyelitis such as facial paralysis, of which Seguin only reports one case, paralysis of the ocular muscles of which I can find no mention, the abdominal pains, the disorders of sensation and the pains in the back. The tendency to look upon these cases as toxic in origin is increasing. Rogers showed by inoculating rabbits with the streptococcus that he produced paralysis with atrophy. Vincent published a case of acute infection followed by acute poliomyelitis. The same etiology is also probable in Landry's paralysis.

The recent epidemic of acute poliomyelitis which occurred in Vermont also points to a toxic origin, as is also the way in which the symptoms develop in children.

DISCUSSION.

Dr. Browning—I have seen similar cases. They run a slow course. I have never been able to group them under one head. I saw a case this summer. A woman, aged sixty. She first developed ocular troubles, followed by paralysis of one vocal chord, one eye, and one facial nerve. She suffered from dyspnœa and sciatica. Her temperature varied from 99°–100°. She died in an attack of dyspnœa.

Dr. Shaw—I do not think this case corresponds to poliomyelitis unless the process was confined to the bulbar nuclei. Similar cases such as those which follow measles resemble poliomyelitis, but are neuritis.

Dr. Brush—I have seen but three cases in the adult of polio-

myelitis. These were all atypical, and it was only after a careful study that a probable diagnosis was made. Two of these presented disturbances of sensation, one of continuous pricking sensations in the feet, and the other of pain and subjective numbness in the left arm and legs. Poliomyelitis in the adult does not seem to be a common affection, and Doctor Shaw's paper is certainly a valuable addition to our knowledge upon this subject.

A. C. BRUSH, M.D., Secretary.



BROOKLYN SURGICAL SOCIETY.

June, 1896.

GASTROSTOMY FOR CICATRICAL STRICTURE OF THE ESOPHAGUS.

Dr. Fowler read the history of a case of gastrostomy for cicatricial stricture of the esophagus. In this case he performed what is known, through Kocher's writings, as Albert's operation, in which a vertical incision is made through the left rectus muscle, passing through the middle of the muscular mass down to the peritoneum. The stomach was drawn out through the opening thus made, and a sufficiently capacious diverticulum was seized and drawn well forward. The abdominal wall was then closed by first bringing the rectus muscle together and closing the skin-incision afterward, with the diverticulum projecting at its upper angle. A transverse incision was then made about two and a half inches above the upper angle of the abdominal incision, upon the chest wall. Through this opening the diverticulum of the stomach was grasped by forceps, passed tunnel-fashion through the subcutaneous connective tissue, and drawn up beneath the skin and secured to the edges of the upper opening by a few stout silk sutures. The remainder of the skin-wound was then closed and the apex of the diverticulum at once opened and some food passed into the stomach. The edges of the wound where the stomach and skin were sutured together were painted over with compound tincture of benzoin, making a sort of seal to prevent liquid food from finding its way into the subcutaneous connective tissue. The patient made good recovery after the operation, and has been fed ever since by this route. Attempts were made to pass an esophageal bougie into the stomach, but these were abandoned for the time being. There have been no stomach disturbances since the operation. The patient feeds herself by passing a large-sized catheter through the upper opening and so

down to the stomach. She feeds herself with semi-fluid food and fluid food, and has not lost any flesh since the operation, keeping herself well nourished in this way.

The object of the operation is to furnish an artificial esophagus, instead of carrying on the introduction of food directly into the stomach through an opening in the latter. All food introduced is retained, and there is no leakage of the contents of the stomach or of its gastric juice—quite a constant complication of cases of gastrostomy as performed by the older methods.

[The patient having followed the method of feeding through the artificial opening for three months, at the end of that time it was found that she could swallow fluids, and even soft food, quite readily. The explanation of this is to be found in the fact that the swelling about the stricture, which had been kept up by constant efforts to force food along the esophagus after the injury, had subsided under the influence of prolonged rest of the parts.—G. R. F.]

CENTRAL NECROSIS OF THE OS CALCIS.

Presentation by Dr. Fowler of specimens of central necrosis of the os calcis occurring in a child three years of age.

Dr. Fowler stated that a few days ago this child was admitted to the Brooklyn Hospital with what was supposed to be a sprained ankle, though the history was rather indefinite, as is quite the usual thing in this class of patients. All that could be learned about the case was that shortly after the supposed sprain the child walked lame, and an abscess had formed just behind the external maleolus, which had opened spontaneously and had ever since continued to discharge. The accident occurred about two months before the admission to the hospital. Upon examination, the probe was passed down through the sinus into the interior of the os calcis itself. An incision was made for exploring the sinus, and was so directed that, if continued in the same line, it would make the ordinary horseshoe-incision for typical excision of the os calcis. The interior of the bone was found to be so diseased that it was determined to remove it entirely. The specimen exhibited was a beautiful example of central necrosis of the os calcis.

TWO CASES OF ECTOPIC GESTATION—ABDOMINAL SECTION; RECOVERY.

Dr. Fowler presented the histories of two cases of ectopic gestation, together with the specimens.

The first, a woman, aged thirty-five, was admitted into the

Methodist Episcopal Hospital on March 17th last, from the practice of Dr. Wm. W. Lang, to whom the patient is indebted for an early appreciation of the necessity for operative interference. The dearth of history in the case was such as is usually presented in cases of ectopic gestation; the patient was not even aware that she was pregnant, as amenorrhea and other disturbances of menstruation had been complained of previously. The point which excited suspicion was the occasional occurrence of pain in the left iliac region, accompanied with a peculiar "faint feeling," very accurately described by the patient, in addition to the fact that she had passed two menstrual periods. No cast of the uterus had been thrown off, to the patient's knowledge.

Upon examination it was found that the uterus was pushed to the right, and a soft, well defined oval swelling presented itself to the left; this was comparatively insensitive to the touch.

She was removed to the hospital, the abdomen opened, and the left tube found to be the seat of an extra-uterine pregnancy. This was still intact. The further steps of the operation consisted simply in ligature of the tube and broad ligament close to the uterine body, and the removal of this, together with the corresponding ovary. The patient made an uneventful recovery.

The second case was that of a colored woman, twenty-one years old, who was admitted to the Brooklyn Hospital with a history of having passed two menstrual periods and of having been attacked a few hours before admission with sharp, cramping pains in the right iliac region. The case was sent in as one of appendicitis. When seen by Dr. Fowler, she was in a state of complete collapse, with air-hunger and complete absence of pulse at the wrist. Examination of the abdomen showed a large amount of free fluid in the peritoneal cavity. The patient was placed upon the operating-table, and five pints of normal saline solution of a temperature of 120° Fahr. infused. The change wrought in the patient by the hot salt-solution was most extraordinary and rapid. When two pints had been infused she had rallied markedly, and when the entire five pints had been introduced into the circulation, the pulsation of the abdominal aorta could be perceived across the operating-room.

Ether was now administered and the abdomen opened in the median line. A large quantity of blood was found in the pelvic cavity, together with the fetus shown. The tube was ligated close to the uterus, and, together with the ovary, removed. The pelvic and abdominal cavities were now cleansed. Gallon after

gallon of sterilized salt-solution were used in effecting this, the hand being introduced and clots displaced and washed out from all directions. A large amount of clean salt-solution was finally allowed to remain after the washing was completed, and a strip of gauze introduced at the lower angle of the wound for drainage. Supplementary to this, a large, hot enema of salt-solution was administered to the patient in the Trendelenberg-position. The latter was repeated every half hour, or as soon as it had failed with its heat, each enema being evacuated by a tube preparatory to the administration of another. This was kept up for twelve hours, together with the use of one-tenth-grain doses of strychnia every three hours.

The patient made an uncomplicated and complete recovery.

RECTAL PLATE-HOLDER IN SKIAGRAPHING VESICAL CALCULUS.

Dr. Fowler said that this matter of skiagraphy is becoming one of great interest, and some day will become one of great importance. The doctor observed that one fact has impressed him—that it is almost impossible to tell in any given case of foreign body what the depth of the latter in the tissue was; so that, while as a matter of identifying its actual presence in the tissues, the process seems to be of decided value, yet in the aiding of the operative procedure itself it can be thus far of little use. He further remarked that there has recently been a suggestion made by Dr. Trowbridge that the depth in the tissues may be determined by triangulation.

In connection with this subject, the doctor called attention to a plan that for some time had occupied his mind, whereby the diagnosis of vesical calculus in obscure cases could be aided; cases in which calculi may be so located as to escape detection by ordinary methods. In order to facilitate diagnosis of this class of cases, the idea had suggested itself to him that a plate-holder with a sensitive plate, placed in the rectum so that the rays of light might find their way behind the pubic arch, might be an efficient aid. Placing the plate-holder within the rectum would prevent obscuring the object in the bladder by the shadows, which would result from placing the plate behind the patient's sacrum. In order to accomplish this, the doctor had had made an aluminum plate-holder, so formed as to hold a moderate-sized sensitive plate, capable of being closed light-tight, and which can be made absolutely moisture-proof by a layer of collodion around the edges.

TRANSPERITONEAL LIGATURE OF THE EXTERNAL ILIAC ARTERY.

Dr. Fowler presented a case of elephantiasis of the lower extremity, cured by ligature of the external iliac artery.

ADNEXA ADHESIONS, THE RESULT OF FETAL PERITONITIS; LAPAROTOMY.

Dr. Fowler presented the specimens, together with the history of a case of adnexa adhesions, the result of fetal peritonitis, as follows:

E. M. B., age fourteen, schoolgirl, was admitted to the Methodist Episcopal Hospital at the request of Dr. Maxfield, with the following history: When a child of seven months, a purulent discharge from the vagina was noticed. No history of an intra-abdominal or pelvic inflammation could be obtained. Four months previous to admission the first attempt at menstruation occurred. This was characterized by severe cramping pains in the lower abdomen, particularly upon the left side, dragging in the back and loins, and intense headache, these symptoms lasting four days. No flow took place. These phenomena have occurred every month since. Five weeks before admission, a slight flow of blood from the vagina was observed, unaccompanied with pain. Ten days later her regular monthly attack came on, but no flow occurred.

The patient was prepared for abdominal section and anesthetized. A careful examination was made of the pelvic organs by bimanual palpation, but nothing abnormal discovered.

The abdomen was now opened by the usual median incision. The pelvic viscera were found to be bound together by extensive adhesions, indicating disease of the peritoneum at some early date. The uterus, ovaries, and tubes were found to be of infantile size. Both tubes were much distorted, being doubled upon themselves several times, and then firmly held by thin bands of adhesions. At the fimbriated extremity of the right tube, a cyst, the size of an English walnut, was found.

The adhesions were broken up and both tubes and ovaries removed. The vermiform appendix was surrounded by a double fold of peritoneum, both of which contained large vessels, as if furnished with a double mesentery. The appendix was likewise removed.

The patient left the hospital perfectly well, and was seen by Dr. Maxfield at the end of three months. There had been no recurrence of the monthly pains, and the child had gained markedly in weight and strength.

October 1, 1896.

TWO CASES OF CHOLECYSTITIS.

Dr. Warbasse said these cases were of interest because they were both sent into the hospital as cases of appendicitis, for operation. These cases occurred in the service of Dr. Pilcher in the Methodist Hospital, and were operated on within a few days of one another. A brief history of each case follows :

The first is the case of a man, forty-eight years of age, who had been entirely well, and had worked up until the time of the attack for which he was sent to the hospital. Three days before his admission to the hospital he had been seized with severe, cramp-like pains in the iliac region. The pain had continued with vomiting during the second day, followed on the third day by persistent nausea. The bowels were loose. During the three days of the attack the patient had had from five to six movements daily. At the end of the third day, examination of the abdomen showed pain and tenderness in the right iliac region, and pain at McBirney's point. Just below the liver and continuous with it was a tumor on the right side, which was independent of the area of pain and tenderness below : that is, his pain and tenderness were located distinctly in the right iliac fossa, where there was no tumor. A tumor was, however, discovered continuous with the liver, and attached to the lower surface of that organ. The right rectus muscle was tense. The diagnosis of appendicitis was accepted, with the provisional diagnosis that there was some other pathological condition independent of the appendicitis, higher in the abdomen. The appendix was exposed by the ordinary oblique incision over the cecum. It was found rather smaller than the normal appendix : it was, however, tense and congested. The appendix was removed and the stump buried by a purse-string suture. The finger, passed up toward the liver, discovered a tumor bulging from the lower surface of the liver. This tumor was covered by omentum, and was rather soft in consistency. The incision was carried upward in a vertical direction, exposing this mass. The omentum, which was very closely adherent to this tumor, was dissected away with the finger, exposing a cystic tumor bulging from the lower surface of the liver. This mass was so intimately connected with the liver, and its covering peritoneum merged so continuous with the peritoneum of the lower surface of the liver, that it looked very much as if it were a part of the liver itself. The history of

the man excluded abscess of the liver, and for that reason the mass was walled off by a gauze-packing and the cyst incised. It was found to contain about eight ounces of blood-stained and bile-stained muco-pus. This thick material was sponged out through the opening. No stone was found in the cyst. After it had been dried out, it was packed with gauze and the lower part of the abdominal wound closed. There seemed no reason why this patient should not make an uninterrupted recovery. There was no evidence in this cyst of acute infection, although there were adhesions to its peritoneal surface. The patient did well until the second day following the operation, a double pneumonia developed, which, unfortunately, was very violent in its progress. The respiration became very rapid, the lower part of both lungs rapidly became consolidated, and on the sixth day after the operation the patient died. The autopsy showed the intra-abdominal condition all that could have been desired. The lower lobes of both lungs were entirely consolidated. The cyst which had been opened was found to be the gall-bladder. It contained no stone. The cause of the obstruction must have been simply a swelling of the mucosa of the duct. A very interesting feature was that the whole inside of this greatly distended gall-bladder was the seat of a very general ulcerative process. The whole surface was eroded; it was almost one complete ulcer, involving only the superficial layers of the mucosa.

A few days later there came into the Methodist Hospital a woman with a diagnosis of appendicitis. She was thirty-one years of age. During the last four years she had repeated attacks of severe abdominal pain, referred to the right side of the abdomen, chiefly to the right hypochondrium. These attacks lasted from a few hours to a day or two. The pain was described as being of a grinding, rather than of a cramp-like character. Vomiting with these attacks had been a very common occurrence. The bowels had been somewhat constipated. She had never had any signs of jaundice; the temperature was not known. The attack with which she was suffering at the time of her admission to the hospital had come on three days before, beginning with severe pain to the right of the umbilicus, similar to the previous attacks, but seemed more severe in character. She had vomited repeatedly; the bowels were obstinately constipated. Her face indicated intense suffering. She lay with the knees and thighs flexed. Examination of the abdomen revealed exquisite tenderness to the right of the umbilicus and over the right hypochondrium. There

was no special tenderness as low down as McBirney's point. No tumor could be discovered. There was some general abdominal distension. The muscles on the right side of the abdomen were very tense. She was admitted with a temperature of 101.2° and a pulse of 120.

This seemed to him not to be a case of appendicitis. The abdomen was opened directly over the gall-bladder by a vertical incision. Immediately on opening the abdomen, a small amount of turbid serum escaped from the general peritoneal cavity. There then presented a tumor, which, in position, represented the gall-bladder, covered with omentum and adherent to the surrounding coils of intestine by masses of plastic, fibrinous exudate. The omentum was dissected away, revealing a tumor about the size of half of a good-sized lemon, lying against the lower surface of the liver. The color of this tumor was precisely that of the liver, and this, too, presented the appearance of a tumor continuous with the liver itself. He was satisfied, however, that this was the gall-bladder, which, because of the exudation and the signs of peritoneal infection and the adhesions, and serum in the abdomen, was the seat of a very active infective process. This was at once separated from the general peritoneal cavity by iodoform-gauze packing in such a way as to expose the tumor in the wound. A gauze drain was carried down to the lowest focus, which had contained serum and plastic exudate, and the rest of the wound closed, with a view of opening the gall-bladder at a second stage. The patient's temperature subsided, the pain disappeared, and she was very much more comfortable. On the third day after the operation the gauze overlying the cyst was removed, with a view of removing the tension, for there was a very high degree of tension in the cyst. It was aspirated and a few drams of pus removed. A few days after this a free opening was made into the cyst, and three gall-stones, which were presented, were removed.

He also presented the appendix of the first case.

It was three weeks since the operation of removing these gall-stones. The fistula closed rapidly, and the wound has now entirely healed.

These histories were presented with the hope that they might be of some interest, and chiefly for the reason that both of these cases were sent to the hospital for the relief of appendicitis. In the first case, there were two very distinct pathological conditions. The symptoms which the first case presented were entirely inde-

pendent of the disease of gall-bladder. The patient had been entirely well and about his labor up to the time of the attack. The second case is a simple case of empyema of the gall-bladder, with calculi.

Dr. Wunderlich stated in operations for gall-stones, whenever feasible, the gall-bladder, the cystic, hepatic, and common duct should be exposed and carefully examined.

Primary cholecystotomy should be done in preference to the secondary operation. It is not more dangerous than the secondary operation, and has many advantages over it.

It admits of an examination of the cystic, hepatic, and common ducts, to ascertain whether gall-stones are present or not.

If a stone is present in the cystic duct, an attempt should be made to push it back into the gall-bladder. If this cannot be accomplished, a cysticotomy should be done and the stone extracted through the wound.

The duct should be explored with finger and sound for the presence of other stones. If present, they are pushed to the opening and also extracted. After removal of the stone or stones, the wound is carefully closed with sutures.

If a stone is in the common duct, it is only in rare cases possible to push it back into the gall-bladder.

To remove it, a choledochotomy has to be done, in the same manner as the cysticotomy.

After removal of the stone, a thorough exploration of the common and the hepatic duct should be made by the finger, through the wound.

After removal of all stones, the wound is carefully closed with Lembert sutures.

A primary cholecystotomy is done to remove gall-stones from the gall-bladder, to relieve the inflammatory condition of the gall-bladder and ducts, and it acts as a safety-valve in case a cysticotomy or choledochotomy has been done.

If a secondary cholecystotomy has been done, and in consequence of the drainage the inflammatory condition of the gall-bladder and ducts subside, gall-stones which have been held firm by the swollen mucous membrane frequently are discharged at a later time. However, some cause a great deal of pain, trouble, and anxiety before they can be removed.

If a stone is in the common duct, a permanent fistula will remain. A second celiotomy and a choledochotomy will be necessary to cure the patient.

Dr. Delatour stated that this is a subject which interested him considerably, and he believed it to be one of extreme importance; that it is a condition which, as Dr. Warbasse has shown, is easily confounded with appendicitis. He saw, in February, two cases in which diagnoses of appendicitis had been made, and they were both cases of empyema of the gall-bladder.

In the first case related by Dr. Warbasse, the question as to whether the appendix was actually diseased or not, the doctor thought was open to discussion. The condition of the gall-bladder as found, certainly would account for all the symptoms—even the pain and tenderness at the lower point. It is reported that ulcerations of the gall-bladder occur in connection with ulcerations of other portions of the intestinal tract. Typhoid fever is sometimes accompanied with ulcerations of the gall-bladder. As regards the method of procedure in operating, the doctor said that he regarded it important to explore thoroughly in all cases, not only the cystic, but the common duct, and that the gall-bladder should always be opened, as a primary procedure. In one case in which he operated, he did not do so because the condition of the patient was very bad, and he was obliged to hurry the patient off the table. In that case, on the third day, the gall-bladder was opened and evacuated, and a large quantity of fluid, such as has been described, and one gall-stone were removed. The patient made a complete recovery, and, as far as known to the doctor, has had no return of the trouble. The doctor stated that it was perfectly possible that empyemia of the gall-bladder should develop without the presence of stone. The presence of thickened bile will close the cystic duct so that it cannot escape; that he reported one such case in which the strings of mucus and bile were removed at the operation.

Dr. Delatour further said that Dr. Warbasse laid stress on the fact that the color of the tumor in each case resembled that of the liver, so that it was very hard to tell where the line of demarcation was, and said that that had been his experience in the five cases in which he had operated; that the tumor had not the ordinary green appearance, but resembled the liver. In one case in which he operated, he removed a gall-bladder down close to the cystic duct, and the patient made a complete recovery.

Dr. Wood said he should speak briefly in connection with the technique of the operation, and in that connection would refer to the history of a case which might have some interest. A German woman, forty years of age, suffered with empyema of the

gall-bladder. The gall-bladder was sutured to the abdominal wall at the primary operation. It was impossible to remove the stone under the conditions that existed, and some two weeks afterward, under an anesthetic, another attempt was made through the original opening which was entirely unsuccessful. A week afterward, during one of the dressings, a very little effort was made and one stone came, followed by numerous others, until, he thought, fourteen in all were removed. The doctor stated that the same thing occurred in one other case which he saw some two or three years ago.

The doctor said that these facts bring up the question as to how much effort should be made to remove the impacted stones under severe septic conditions. If stones show a tendency to become loose after the acute infective process has been relieved, when the thickening of the ducts becomes less, then he thinks it is not good surgery to be over-zealous in removing stones at the time of the operation. And the same principle holds true as in regard to the removal of the appendix vermiformis.

Dr. Bristow said that it was interesting to note the number of different pathological conditions which empyema of the gall-bladder simulates. He had seen an empyema of the gall-bladder mistaken for ovarian tumor. He had twice seen the gall-bladder opened low down in the iliac fossa, the tumor having been mistaken for appendical abscess. He referred to a case on which he himself operated two years ago, which had been diagnosed by the attending physician as a case of intestinal obstruction, of which it indeed presented many of the symptoms. He stated that, on looking up the literature of the subject, he found that empyema of the gall-bladder has been several times confused with intestinal obstruction by other observers. A curious feature of the case to which he referred was that the woman had never had an attack of biliary colic nor jaundice in her life. He saw her at the request of the attending physician, and believed, upon examination, that it was not a case of intestinal obstruction, but an empyema of the gall-bladder. The physician was inclined to doubt it, because she had never had an attack of colic. However, the next morning she was operated upon, and there was found a very large gall-bladder of the color of the liver—deep red, and in this case very much distended. On aspiration, at first nothing but a clear, sirupy mucus was found, but subsequently the flow was of the dark pus which has been described by the reader of the paper. The condition of the woman was not good.

She was advanced in years, and instead of opening the gall-bladder at the time, it was thought wiser to stitch the abdominal wall. This was done, and three or four days afterward the gall-bladder was opened and fifty-five gall-stones removed, not one smaller than a chestnut. This woman also died of a double pneumonia, two weeks after the operation.

The doctor stated that he had noticed a gall-bladder far down in the region of the appendix. While he was acting as Dr. Fowler's assistant at St. Mary's Hospital, he saw a case of tumor very low down in the region of the appendix, which was found to be a gall-bladder distended with pus. The patient made an uninterrupted recovery.

Dr. Pilcher said that his experience had been similar to that which had been related by the different speakers. One point which seemed to him worthy perhaps of a little further remark was that made by Dr. Delatour, in which he called attention to or expressed his view of the importance at the time of these operations upon a gall-bladder, of making a thorough exploration of the condition of the common duct as well as of the condition of the gall-bladder itself. When, however, a surgeon had to do with an acute empyema of the gall-bladder with a good deal of constitutional disturbance and oft times a good deal of depression, Dr. Pilcher was inclined to think that, as a rule, it would not be wise to follow such a course at the time of the original operation, but rather that it would be better to limit the operative interference at the time simply to that which was necessary to relieve the immediate symptoms, and then to be guided by the further history of the case as to whether a more extended investigation should be made, and whether there should be further operative interference. In these cases we often have a gall-bladder very largely distended—so distended that until it is emptied it is impracticable to make the investigations required to determine the condition of the common duct. After the necessary interference for emptying the gall-bladder, the possibilities of spreading the infection must be very great. The other extreme perhaps was that which had been suggested by Dr. Wood, namely, instead of making investigations and possibly relieving any impaction of calculi in the common duct, no attempt to be made even to remove calculi retained in the gall-bladder itself; to be content with making an opening in the gall-bladder and then leave the case to its own course. According to the experience related, we may expect in some cases the later spontaneous expulsion of

calculi. Such a result, however, might be expected perhaps only in a limited proportion of cases. But inasmuch as it might take place in those cases in which it is necessary to terminate the operative interference as soon as possible and do as little as possible, the surgeon would be justified in refraining from anything else but opening the gall-bladder and opening a way for the future escape of whatever may be within, if conditions are such as to make it unwise to interfere further.

The doctor said it was extremely interesting to one who has had an opportunity of watching the development of gall-bladder surgery, to see the number of cases which are now submitted to operation and in which complete cure is secured by operation, in which the gall-bladder is affected, when until within a few years nothing of the kind was dreamed of by surgeons. He referred to a case which occurred in this city in 1879, of a woman who was taken care of at the Helping Hand Dispensary, at the corner of Grand and Atlantic avenues. A biliary fistula formed, after a history of obstruction to the common duct, and it went on from bad to worse, until finally the woman died. The best surgical talent of the city was consulted in this case, but nothing more than an ineffectual attempt to secure a free opening into the gall-bladder by the use of *potassa fusa* was made. And now we know it could have been relieved by a comparatively simple and safe operation or series of operations. All of this so-called gall-bladder surgery is a development of the last ten or twelve years.

As to the possibility of confounding an acute empyema of the gall-bladder with appendicitis, now that surgeons are on the lookout for it, he believed that the frequency with which such a mistake will occur will be less in the future than in the past. The first case of gall-bladder empyema which came under his care was one of those large, low-reaching distensions, in which the tumor filled up the right side of the abdomen and its base extended low down, and until the abdominal cavity had been opened and its nature had been revealed to the eye, the doctor supposed he was about to encounter an appendicular abscess. Such cases may generally be differentiated by surgeons by their relation to the liver, the manner in which they may be traced upward, the peculiar shape, roundness, well-defined globular character of the tumor, the tenderness not being so limited to the peculiar region in which it is known the appendix, as a rule, is to be found; these are all conditions which would tend to create in the minds of

surgeons the expectation of meeting with a gall-bladder trouble, rather than an appendicular trouble.

With regard to the treatment of these cases for the avoidance of a permanent fistula, the doctor said that where it is possible to pack about the gall-bladder and secure a deep, tubular-like opening dammed in with adhesions, that would be a wise method of procedure to adopt, for thereby the possibilities of a persistent muco-cutaneous duct leading from the gall-bladder to the skin, which has occurred in a certain proportion of cases, would certainly be avoided. This was the course which was adopted in one of the cases reported by Dr. Warbasse. When it is necessary, however, immediately to stitch the gall-bladder to the wall of the abdomen, the sutures should involve only the parieto-peritoneal layer in order that the remaining wound-surfaces may present a more extensive surface for granulation, thus diminishing the tendency to the formation of a fistula. These remarks apply to those cases in which it is impracticable to suture the opening in the gall-bladder.

The doctor referred to one case, which was under his treatment two years ago, of a contracted gall-bladder packed full with gall-stones, which was opened and emptied of its contents and at once sewn up. A gauze-drain was placed from the exterior down upon this point of suture and left in place some forty-eight hours, after which time it was withdrawn and the external wound closed, and the case proceeded to healing without trouble. It is not, however, always possible to close the wound by suture immediately ; it is not always safe to attempt it.

Dr. Warbasse said he was very much gratified at the discussion which his remarks had called out, and felt abundantly repaid for having opened the subject. He said there was one idea he would like to express in closing, and that was concerning the formation of stones in the gall-bladder after complete occlusion of the cystic duct. That it was brought to his mind by the remark made by Dr. Wood, referring to the large number of stones having come away during the course of time in the case which he mentioned. The question arises whether or not these stones were present at the time of the operation, or whether they developed subsequently to the operation. Dr. Warbasse stated that it is a curious fact that the epithelium of the gall-bladder shares, in many respects, the peculiarities of the liver-cells, for it is known that the gall-bladder epithelium is capable of secreting cholesterin, and there are cases in which the complete occlusion

of the cystic duct has taken place, so that no bile entered the gall-bladder, and yet, in such cases, gall-bladder stones have formed as a result of the peculiar secretion of the gall-bladder itself.

THE KINGS COUNTY MEDICAL ASSOCIATION.

At the December meeting Dr. J. J. O'Connell will read a paper on "The Medico-Legal Aspect of Insanity With Reference to Commitments, Jury Trials, and Expert Testimony."

HISTORICAL DEPARTMENT.

JOHN CARPENTER, M.D.

In the early history of medicine we find that it was very intimately connected with theology, this is more clearly illustrated in the life and character of the late Dr. John Carpenter, the first treasurer of the Medical Society of the County of Kings.

He was born at Goshen, Orange county, New York, on April 17, 1791, his father was Anthony Carpenter of Hamptonburg, N. Y., his mother was a daughter of the late Rev. John Moffat, a Presbyterian preacher, who was the early tutor of Governor De Witt Clinton.

Dr. Carpenter's education was conducted by the Rev. John Moffat, and at an early age he came to the city of New York, about 1807. Arriving in the city he made his home with the Rev. James B. Romeyn, D.D., pastor of the old Cedar street Presbyterian church; he found employment in the Governor's office.

A few years later he began the study of medicine with the late Dr. — Douglass of New York as preceptor; he attended the course of lectures at the old College of Physicians and Surgeons, and in 1812 was licensed to practice medicine by the New York State Medical Society. He also received a license from the Medical Society of the County of Kings in 1822, which was as near as the writer has been able to ascertain the first license granted by our Society.

After he received his license to practice medicine in 1812, he received an appointment as surgeon in the United States Army. He served in the War of 1812, and in the first Seminole war, 1817-18 on the staff of General Andrew Jackson. To show the

character and standing of the late Dr. John Carpenter, I append the following:

To the HON. WILLIAM H. CRAWFORD, Secretary of War:

I was acquainted with the conduct of Dr. J. Carpenter during part of the late war, and believed him to be highly deserving of and well qualified for the part of Surgeon in the United States service, and I beg leave to solicit his appointment.

DANIEL D. HUMPHY,

October 9, 1816.

The above-mentioned gentleman, Dr. J. Carpenter, has served some months under my command as acting surgeon, entirely to the satisfaction of myself and the officers with whom he has been more immediately associated, and I shall feel myself highly gratified by his appointment.

(Headquarters) GENERAL WINFIELD SCOTT,

October 19, 1816.

His connection with the army terminated in 1822, when he commenced private practice in the villages of Fort Hamilton and New Utrecht, and in the same year was one of the organizers of the Medical Society of the County of Kings, and its treasurer from 1822-24.

In 1825, he organized the first Sabbath school in the village of Fort Hamilton, and in 1826 the New Utrecht Sabbath-school, of which he was superintendent until his death. He was deacon of the Reformed Dutch church, New Utrecht, L. I., 1824-25, and an intense leader in the temperance cause, and for a number of years school commissioner of Kings county.

On June 5, 1817, he married Miss Margaret Smith of Fort Hamilton, who was born on March 7, 1795, and died August 4, 1864. The children who have grown up to honor the memory of their parents were as follows:

Rev. Hugh Smith Carpenter, D.D.; Jane Stewart Carpenter, wife of C. H. Schapps, M.D.; Mary Carpenter, wife of the late Rev. Alex. R. Thompson, D.D.

Dr. John Carpenter died on September 13, 1864, his wife, with whom he had lived for forty-seven years, preceded him but a few weeks. His was a well-spent life, full of deeds of kindness and acts of charity; he was a lover of children, which is illustrated by his thirty-eight years as superintendent of the Sunday-school. His remains lie in the old New Utrecht cemetery, surrounded by companions of earlier days.

WILLIAM SCHROEDER, M. D.

GEORGE B. O'SULLIVAN, M.D.

A few words in memory of my young friend.

A few years and what a change; this thought came to the writer as he stood and looked upon the cold face of his former friend at the house of mourning. Young, active, and full of promise, possessing all the qualities which go to make up the man and physician, with a bright and prosperous future before him, the friend of the poor. Although young in years he was old in the affections of those among whom he lived. Administering to their physical wants, with a devotion to professional duty, which commended itself to everyone with whom he came in contact.

In my early years of professional life, Dr. Geo. B. O'Sullivan was a lad attending school during the greater part of the day, and whenever a few hours offered themselves for enjoyment, these were put to use by assisting in J. J. Rambo's drug store; it was here that he first developed those qualities which in after life made him the successful physician that he was.

On the day of the funeral, in walking arm-in-arm with my old friend John Harrigan, M.D., to the church where a eulogy was to be pronounced by the pastor of our friend, Rev. William T. McGuirl, the thought came to us that during the years of our practice in that section of the city, we had witnessed one after another of our professional friends lay down their life-work and depart, we hope, to a better land, so that to-day neither physician nor druggist who was in practice at that time is among the living.

Why should we not, as professional men, record the good deeds of our fellow-workers in the cause of suffering humanity, when our life-work seems to be of such short duration? More so when we look upon a young man, devoted to those near and dear to him, and the practice of his profession, who through his sterling manhood had endeared himself to everyone who had the privilege of making his acquaintance; should we not place upon record our appreciation of his work as a man and useful member of our community?

His example may be followed by every young member of our profession, for there was nothing in his career that does not shine as bright as the noon-day sun; may those who had the pleasure of knowing him, and who admired him for his noble qualities, ever remember that an aged father and mother need their sympathy and well wishes.

WILLIAM SCHROEDER, M.D.

JOHN CARPENTER, M.D.

We give in this number of the JOURNAL the portraits of Dr. John Carpenter, the first treasurer of our County Society, and of Frederick Roysch, the father of minute anatomy and anatomical museums. For a biographical sketch of the latter we refer the reader to the JOURNAL for December, 1892.

EYE DISPENSARY OF EASTERN DISTRICT HOSPITAL.

Dr. Fred D. Bailey of 260 Hancock street, and Dr. P. C. Jameson of 105 Montague street, have been appointed physicians to the eye dispensary of the Eastern District Hospital. The eye dispensary will be open daily in the future, from one to two o'clock in the afternoon.

MISCELLANEOUS.

ANTITOXIN IN DIPHTHERIA.

In *Pediatrics* for October 15th, Dr. W. A. Walker of New York adds his testimony to the mass which has already accumulated in favor of this method of treatment. He has obtained the best results from the serum prepared at the biological laboratory of Parke, Davis & Co., and regards the bulbs in which their serum is now put up as preferable to bottles. His other treatment consists in calomel tablet triturations, one quarter grain every hour until the bowels move freely, provided there is evidence of the absorption of poisonous secretions and a coated tongue. Alcohol he believes to be rarely needed when the serum treatment is employed. For nourishment he relies mainly on milk.

TRAINED NURSES' DIRECTORY.

The second edition of this directory has just been issued. It contains the names and addresses of trained nurses recommended by prominent physicians of New York and vicinity. It is published semi-annually at the annual subscription of \$1, and is compiled and edited by M. Louise Longeway.

PROGRESS IN MEDICINE.

SURGERY.

BY GEORGE R. FOWLER, M.D.,

ASSISTED BY RUSSELL S. FOWLER, M.D.

MEDIAN CALCANEAN INCISION.

A. Landerer, Surgeon-in-Chief to the Karl-Olga Hospital in Stuttgart (*Centralblatt f. Chir.*, 1896, No. 36, pp. 857-859), describes a new and extremely valuable and simple method of removing the os calcis in case of disease of that bone. The simplicity of the procedure is such that, as the author remarks, it seems strange the method has not been reported long since, but an inquiry into American and European authors fails to disclose anything similar.

Professor Landerer calls attention to the fact of so much having been said and written during the past few years on the subject of tarsal resection, the reason probably being the great variety of cases and the consequent impossibility of following any single fixed plan. The method presently to be described has been recently employed by Landerer in five cases of extensive carious destruction of the tarsus and foot, and for osteo-myelitic necrosis of the calcaneum.

Beginning at a point either directly over or slightly above the insertion of the tendo-achillis into the lower rough part of the posterior surface of the os calcis, an incision is made by means of a strong resection-knife in the median line of the foot and directly down to the bone, then carried as far forward on the plantar surface as the individual case requires. By this incision the skin and subcutaneous fat are divided, the tendo-achillis split longitudinally at its attachment to the os calcis, and if the incision is carried far forward the external plantar artery is severed. The edges of the incision are held apart by sharp retractors, and the plantar fascia together with the flexor digitorum brevis separated in the direction of its fibers. All tendons and tissues are retracted from the median line; then, aided by the scissors and periosteal elevator, the tarsal bones can be removed without difficulty. By removing the diseased os calcis, which is an easy matter, all the details of the tarsus can be reviewed, the removal of the calcis leaving a large cavity, extending backward and downward. Through this gap, Professor Landerer has easily

excised the external malleolus situated seven centimeters higher up. However, it must be stated, that the median calcanean incision is not indicated unless disease of the os calcis is present, or it is the operator's purpose to remove that bone. The cavity left by the excised bone is tamponed lightly. This method allows of excellent drainage, the wound-discharges escaping easily by reason of gravity.

If, as is usually the case, the periosteum is not affected and need not be removed, there is excellent functional result. Slight shortening of a few centimeters is present in the long axis of the foot, but is not troublesome, and is easily counterbalanced by a properly constructed shoe. The plantar cicatrix does not impair walking, as it retracts so deeply as not to be pressed upon.

This method certainly gives a better cosmetic and functional effect than do the usual methods, and for the ease with which it is carried out rivals Ollier's external angular and Guérin's spur incision.

CONSERVATIVE SURGERY IN THE TREATMENT OF SPINA VENTOSA.

Dr. Thiel (*Centralblatt f. Chir.*, 1896, No. 35, pp. 833-837) reports an extremely interesting case of spina ventosa occurring in the service of Professor Bardenheuer at the Kölner Bürger Hospital. The case, a severe one in a girl of twelve years, had been unsuccessfully treated for upward of a year by the usual conservative methods. The index-finger of the right hand was the member affected, the middle phalanx being two and one-half times larger than the corresponding phalanx in the left index: not only being valueless, but a direct impediment to the usefulness of the hand. In order to restore the hand to its former usefulness, the following procedure was devised and carried out by Professor Bardenheuer with excellent results.

Chloroform and ether narcosis. Esmarch's anemia. A longitudinal incision was made on the radial side of the distal phalanx at its middle, and continued as far as the metacarpo-phalangeal articulation. Parts of the skin, the seat of tubercular fistulæ, were circumscribed and excised. The soft parts were carefully separated, particular attention being given to the tendons and tendon-sheaths of the volar and dorsal surfaces, and the entire middle phalanx removed. This was found to be diseased throughout, with the exception of a thin, bony lamella on the volar surface. It was the operator's purpose to replace the excised phalanx by substituting for it part of the basal phalanx.

With this end in view, the head of the basal phalanx was brought into the wound, with as little injury to the tendons as possible, and was perforated transversely from the radial to the ulnar side. A silver wire was drawn through this perforation to serve as an axis on which the replacing portion of the basal phalanx might turn. The periosteum covering the basal phalanx was now incised in the median line of both volar and dorsal surfaces, the incisions extending from within one-quarter of an inch of the distal head to the junction of the middle and proximal thirds of the bone. A third periosteal incision was made in a semicircular manner on radial side, which served to connect the proximal extremities of the two previously made incisions. The bone was then fissured in the line of the periosteal incisions, care being taken not to injure the narrow strip of periosteum at the distal extremity which was left to serve as the periosteal bridge between the main portion of the basal phalanx and that part of it which was to replace the excised middle phalanx. The longitudinal fissuring is best done by means of a sculptor's chisel. A small saw may be used for the transverse separation. The mobilized piece was rotated on the silver wire as a pivot until it assumed the anatomical position of the middle phalanx, its volar surface, of course, becoming dorsal and vice versa, the silver wire being drawn taut to retain the bone in place. A catgut suture was introduced to connect the distal with the new middle phalanx. Previous to the introduction of this suture the joint surface of the distal phalanx should be slightly freshened. Hemorrhage was completely arrested, the wound closed without drainage, dressed, and a splint and bandage applied.

Following the operation the patient suffered from neither pain nor fever. The first dressing took place ten days after the operation, the wound was entirely healed with the exception of a small surface, one and one-half centimeters long, that was granulating. Eight days later there was complete healing. Massage was instituted from the time of this dressing to the middle of the fourth week; from then on, ambulant treatment.

It can now be completely demonstrated that the transplanted bone has been preserved in its entirety. A solid, bony ankylosis has formed at the site of the first internodal articulation. Active movements in the second interphalangeal joint are not quite satisfactory, but doubtless will become so by further treatment. Passive movements of the distal phalanx can be performed in almost normal extent. There is no impairment of passive or

active motion in the metacarpo-phalangeal joint. The cosmetic effect is excellent, there being no appreciable difference between the two forefingers.

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BROOKLYN, N.Y.

VITAL STATISTICS FOR THIRD QUARTER OF 1896.

BY GEORGE E. WEST, M.D.,

Secretary Department of Health.

	Reported.	July.	Aug.	Sept.
Reported	Births.....	1718	1883	1884
	Deaths.....	2535	2468	1656
Deaths from	Small-Pox.....	0	0	0
	Measles.....	11	13	11
	Scarlet Fever.....	16	5	6
	Diphtheria.....	88	58	58
	Croup.....	6	9	15
	Whooping Cough.....	22	28	16
	Typhoid Fever.....	13	28	25
	Puerperal Fever.....	5	19	6
	Diarrheal Diseases.....	691	424	152
	Pneumonia.....	97	91	99
Cases of	Small-Pox.....	0	0	0
	Measles.....	160	70	40
	Scarlet Fever.....	123	70	88
	Diphtheria.....	388	226	331
	Typhoid Fever.....	12	28	41
Death rate of	Brooklyn.....	26.6	25.9	18.0
	New York... ..	25.5	27.4	19.0
	Philadelphia.....	23.7	22.3	16.9
	London.....	22.8	18.4	14.9
	Paris.....	20.0	17.5	16.0

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL are deposited permanently in the Library of the Medical Society of the County of Kings.

PRACTICAL POINTS IN NURSING FOR NURSES IN PRIVATE PRACTICE. With an appendix containing rules for feeding the sick ; recipes for invalid food and beverages, etc. By Emily A. M. Stoney, Graduate of the Training School for Nurses, Lawrence, Massachusetts, etc. Illustrated with 73 engravings in the text, and 9 colored and half-tone plates. Philadelphia: W. B. Saunders, 1896. Pp. 456. Price, \$1.75 net.

We realize the great difficulty which a writer of instruction to nurses has to meet in determining just what is proper to include, and what should be excluded; there is always danger of overstepping the boundary line between the duties of the nurse and those of the physician. A very large experience is required to enable an author to make these distinctions; indeed, it is only such an experience that justifies authorship under any circumstances. The criticism which we have to make upon the book before us, is that it trenches too much upon the domain of the physician, and as the author is not a physician, mistakes are made such as one would expect. For instance, under the caption "Catheterization," the author says, "the catheter should be of glass or of silver." We doubt very much whether any physician who has kept himself informed ever uses a silver catheter. The glass catheter is, of course, a favorite with some, while others object even to this, and use only a soft rubber one. In describing the method of washing out the bladder the instructions are not sufficiently explicit, nothing being said about the avoidance of the introduction of air, or the height at which the reservoir is to be held. The author recommends the use of a fountain-syringe as the reservoir, and in the absence of a fountain-syringe, "a flexible rubber catheter with a funnel attached." This statement should be reversed, we think, nothing being better than the funnel with flexible rubber catheter. The author's instructions are to continue the filling of the bladder until it is distended, or the patient complains of pain. These instructions are too general, and if carried out would probably do more harm than the washing out would do good.

Having pointed out what we regard as defects, we would say that there is much of great value in the book. It is only just to the author to say that she cautions the nurse not to tread outside her domain, but to studiously refrain from acting upon her own responsibility, and from assuming personal treatment of the patient except under circumstances of great urgency. If nurses would read, mark, and inwardly digest this advice, perhaps the dangers which we have pointed out would not exist.

The volume is one of Saunders' publications, which is tantamount to saying that in typography and all that goes to make a book, it is beyond criticism.

TWENTIETH-CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By leading authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In twenty volumes. Volume VIII. "Diseases of the Digestive Organs." New York: William Wood & Co., 1896. Pp. 667.

In the natural order of events Volume VII should have been the one we are now called upon to notice, but it has been necessary to depart from the regular order. Volume VIII is wholly devoted to a consideration of the Diseases of the Digestive Organs. The divisions of the subject, and the writers upon them, respectively are: Diseases of the Mouth, Johann Mikulicz and Werner Kummel, Breslau; Esophagus, Reginald H. Fitz, Boston; Stomach, Max Einhorn, New York; Pancreas, H. Leo, Bonn; Peritoneum, R. Farquhar Curtis, New York; Animal Parasites and the diseases caused by them, J. Ch. Huber, Memmingen, Bavaria; Treatment of the Diseases caused by Animal Parasites, James M. French, Cincinnati. The more than one hundred original engravings help materially to elucidate the text. We regard this volume as one of the best, as it will certainly be one of the most useful.

THE MEDICAL NEWS VISITING LIST FOR 1897. Weekly (dated, for 30 patients); Monthly (undated, for 120 patients per month); Perpetual (undated, for 30 patients weekly per year); and Perpetual (undated, for 60 patients weekly per year). The first three styles contain 32 pages of data and 160 pages of blanks. The 60-patient Perpetual consists of 256 pages of blanks. Each style in one wallet-shaped book, with pocket, pencil and rubber. Seal grain leather, \$1.25. Philadelphia and New York: Lea Brothers & Co.

The Medical News Visiting List for 1897 has been thoroughly revised and brought up to date in every respect. The text portion (32 pages) contains the most useful data for the physician and surgeon, including an alphabetical table of diseases, with the most approved remedies, and a table of doses. It also contains sections on Examination of Urine, Artificial Respiration, Incompatibles, Poisons and Antidotes, Diagnostic Table of Eruptive Fevers, and the Ligation of Arteries. The classified blanks (160 pages) are arranged to hold records of all kinds of professional work, with memoranda and accounts. The selection of material in the text portion and the arrangement of the record blanks are the result of twelve years of experience and special study. Equal care has been bestowed upon the mechanical execution of the book, and in quality of paper and in strength and beauty of binding nothing seems to be left wanting. When desired, a Ready-Reference Thumb-letter Index is furnished, which is peculiar to this Visiting List, and which will save manifold its small cost (25 cents) in the economy of time effected during a year. In its several styles The Medical News Visiting List adapts itself to any system of keeping professional accounts. In short, every need of the physician seems to have been anticipated in this invaluable pocket-companion.

A MANUAL OF MATERIA MEDICA AND PHARMACOLOGY. Comprising all Organic and Inorganic Drugs, which are and have been Official in the United States Pharmacopœia, together with important Allied Species and Useful Synthetics. For Students of Medicine, Druggists, Pharmacists, and Physicians. By David M. R. Culbreth, M.D., Professor of Botany, *Materia Medica* and Pharmacognosy in the Maryland College of Pharmacy, Baltimore. In one handsome octavo volume of 812 pages, with 445 illustrations. Cloth, \$4.75. Lea Brothers & Co., Publishers, Philadelphia and New York, 1896.

This volume, although intended for students of medicine and physicians, as stated on the title-page, is, we think, better adapted to the uses of the students of pharmacy and druggists. To such we can commend the book, for it seems to fill a want hitherto unfilled. It is also of value to the physician as a book of reference, but there are other works on *Materia Medica* which in our opinion are better adapted to the wants of the medical student.

PRACTICAL DIAGNOSIS. The use of Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M.D., Professor of Therapeutics and *Materia Medica* in the Jefferson Medical College of Philadelphia, Laureate of the Medical Society of London, of the Royal Academy in Belgium, etc. In one octavo volume of 566 pages, with 191 engravings and 13 full-page colored plates. Cloth, \$4.75. Lea Brothers & Co., Philadelphia and New York, 1896.

The great value of this *Practical Diagnosis* is that it is truly practical. Dr. Hare discusses the various subjects treated in the manner in which they are presented to the physician in his daily practice; that is, the symptoms first, and then the determination of the diagnosis from the consideration of these symptoms. For illustration, a physician is called upon to attend a comatose patient; by reference to the chapter on "Coma" he will find the various pathological conditions preceding Coma, and will be able to differentiate them. Or if a patient comes to him for treatment whose symptoms are evidently referable to the feet and legs, the physician, by referring to the chapter on "The Feet and Legs," will be able to decide whether he has to deal with locomotor ataxia, peripheral neuritis, or some other form of disease which affects the gait. The book will, we are sure, be a very helpful one to the practising physician. The two indexes, one of symptoms and the other of diseases, add greatly to its usefulness. One hundred and ninety-one engravings and thirteen colored plates serve to elucidate the parts difficult of comprehension.

A MANUAL OF CLINICAL DIAGNOSIS BY MICROSCOPICAL AND CHEMICAL METHODS. For Students, Hospital Physicians, and Practitioners. By Charles E. Simon, M.D., late Assistant Resident Physician Johns Hopkins Hospital, Baltimore. In one very handsome octavo volume of 504 pages, with 132 engravings and

10 full-page colored plates. Cloth, \$3.50. Lea Brothers & Co., Philadelphia and New York, 1896.

There is no doubt that too little attention is paid by medical students to the study of clinical diagnosis, particularly to that part of it which requires microscopical and chemical knowledge, and as a result many physicians go out from the schools to enter on the practice of their profession inadequately equipped for their life-work. Such books as this of Dr. Simon are of great value in furnishing clinical teachers with methods, which, if more widely adopted and taught in medical colleges, would result in the production of a body of doctors far above the majority of those now composing the profession at large.

The subject-matter treated includes the examination of the blood, saliva, gastric juice, sputum, urine, semen, milk, etc.

THE PHYSICIAN'S VISITING LIST FOR 1897. P. Blakiston, Son & Co., Philadelphia.

This well-known list is now in its forty-sixth year. It contains a calendar for 1897-1898, the metric system of weights and measures, table for converting apothecaries' weights and measures into grains, dose table, instructions for treating asphyxia and apnea, comparison of thermometers, and a new complete table for calculating the period of utero-gestation.

AN AMERICAN TEXT-BOOK OF PHYSIOLOGY. By H. P. Bowditch, M.D.; J. G. Curtis, M.D.; H. H. Donaldson, Ph.D.; W. H. Howell, Ph.D., M.D.; F. S. Lee, Ph.D.; W. P. Lombard, M.D.; G. Lusk, Ph.D.; W. T. Porter, M.D.; E. T. Reichert, M.D.; and H. Sewall, Ph.D., M.D. Edited by W. H. Howell, Ph.D., M.D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Fully illustrated. Philadelphia: W. B. Saunders, 1896. Pp. 1052.

This volume, like others of the series of American Text-Books, is a most admirable and complete treatise. The divisions of the subject, and the assignments of these to well-known teachers, has resulted in a much better book than if any one of them had written the whole. Indeed, based as the volume is, largely on experimental physiology, the task of looking up the many authorities quoted would have been impossible for any one writer without taking so much time, that when done the results would have been ancient history. We have had occasion to study this text-book carefully, and we have nothing to say of it except in the way of praise. It is a credit to American medical literature, and ranks with the best works on physiology published.

We would like to enter a protest against books of this size, and particularly of this weight. It is labor to hold for any length of time a book weighing, as this does, $6\frac{1}{4}$ lbs. We think that physicians, and students too, would be willing to pay the additional expense incurred in binding such books in two volumes. We are sure that they would be oftener referred to, and more studied.



JOHN CARPENTER.

